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Affaires indiennes et du Nord Canada

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NOGAP SECRETARIAT

CONSTITUTIONAL DEVELOPMENT AND STRATEGIC PLANNING BRANCH

INDIAN AND NORTHERN AFFAIRS CANADA

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INTRODUCTION

Purpose

This bibliography contains citations and abstracts for published and unpublished reports and other products completed under the Northern Oil and Gas Action Program (NOGAP) from its inception in the summer of 1984 to June 30, 1986. These items have been funded wholly or partly by NOGAP.

One of NOGAP's operating objectives is to make its products widely known and available. This volume, the first of an intended series, is issued in support of this objective.

The Program

NOGAP is a seven-year (1984/85 - 1990/91) research and planning program to advance the state of federal and territorial government preparedness for major hydrocarbon development north of 60°.

Government preparedness for northern hydrocarbon production refers generally to acquiring the knowledge and analytical capability to make appropriate decisions concerning major northern development proposals. Preparedness requires the ability to evaluate environmental impacts and mitigate adverse ones; to develop guidelines and techniques to minimize hazards; to plan for additional public services and infrastructure, and to implement means of enhancing northern opportunities and benefits from hydrocarbon development.

NOGAP funds may be used either to accelerate work on current projects or to undertake new activities which existing ("A"-base) resources cannot accommodate. Projects are proposed by NOGAP participants to support their responsibilities in connection with northern hydrocarbon development. They are undertaken within the context of generic development scenarios that have been adopted for the program.

Scope of the Bibliography

The bibliography is multi-disciplinary by virtue of the organizations participating in NOGAP--seven federal departments and both territorial governments:

Federal Government

1) Indian and Northern Affairs Canada - Natural Resources and Economic Development;

2) Fisheries and Oceans - Pacific and Freshwater Fisheries, Science Sector;

3) Environment Canada - Environmental Protection Service, Environmental Conservation Service, Atmospheric Environment Service;

4) Agriculture Canada - Canadian Forestry Service;

5) Energy, Mines and Resources Canada - Geological Survey of Canada;

6) Transport Canada - Canadian Coast Guard Northern;

7) National Museums of Canada - National Museum of Civilization, Archaeological Survey of Canada.

Government of Yukon

1) Executive Council Office - Bureau of Statistics;

2) Education - Yukon Archives;

3) Economic Development: Mines and Small Business;

4) Renewable Resources - Lands, Parks and Resources; Fish and Wildlife;

5) Tourism - Heritage Branch.

Government of the Northwest Territories

1) Culture and Communications - Prince of Wales Northern Heritage Centre;

2) Economic Development and Tourism;

3) Energy, Mines and Resources Secretariat;

4) Health - Programs and Standards;

5) Justice and Public Services - Legal, Safety, Consumer Services;

6) Local Government - Policy and Legislation, Regional Local Government;

7) Renewable Resources - Policy and Planning, Wildlife Management, Environmental Planning and Assessment;

8) Social Services - Regional Programs.

The bibliography, compiled by the NOGAP Secretariat, Indian and Northern Affairs Canada, contains all the reports produced completely or partially with NOGAP funding and submitted by June 30, 1986. Some of these reports have been published, primarily in well-known departmental series. A majority of reports have not been formally published, although it is planned that some will appear in existing series. The reports are final, unless otherwise noted. Such reports as interim and annual progress reports for projects have not been included, given their transitional nature.

As well, "other products" have been included in instances when a product other than a report, such as an audio-visual or a map series, has been produced. There are only a few such items at present. In certain cases, such as charts produced by the Canadian Hydrographic Service, the material produced from the incremental contribution made by NOGAP funds has not been included.

Organization of the Bibliography

Both reports and other products are grouped together because of the small number of the latter at present. The bibliography is organized by NOGAP participant, in the order shown in the preceding section, and by the project name and number under which the material was developed. Not all participants have yet produced material suitable for inclusion in the bibliography. Where two or more participants developed an item, it is cited under the appropriate project for each participant.

The bibliography contains a full citation and an abstract for each report or other product. The citation format is that used by the Arctic Science and Technology Information System (ASTIS). Abstracts were provided by the author(s) or by the NOGAP Secretariat, with the source noted (Au or NOGAP).

Availability of Documents

The last line of the citations (i.e., the last line preceding the abstract) contains a location code indicating where the document may be obtained on interlibrary loan. The symbols for Canadian libraries assigned by the National Library of Canada are used. Most citations show the library symbol OORD, which indicates they are available from:

Indian and Northern Affairs Canada
Departmental Library
Interlibrary Loan Section
Ottawa, Ontario
K1A 0H4

The library symbols used are as follows:

ACDP	Dome Petroleum Ltd., Calgary
ACGO	Gulf Canada Ltd, Calgary
ACI	Esso Resources Canada Ltd., Calgary
ACSP	Institute of Sedimentary and Petroleum Geology, Calgary
AEECW	Canadian Wildlife Service, Environment Canada, Edmonton
AEEPS	Environment Protection Service, Northwest Region, Environment Canada, Edmonton
BVAEP	Environmental Protection Service, Pacific Region, Environment Canada, West Vancouver
BVAG	Geological Survey of Canada, Vancouver
MWFW	Freshwater Institute, Fisheries and Oceans, Winnipeg
NSDB	Bedford Institute of Oceanography, Dartmouth

NWYEEP	Assessment and Coordination Branch, Environmental Protection Service, Environment Canada, Yellowknife
NWYGI	Government In-Service Library, Government of the Northwest Territories, Yellowknife
NWYIN	Indian and Northern Affairs Canada, Yellowknife
NWYOS	Otto Schaeffer Health Resource Centre Library, Yellowknife
NWYRR	Renewable Resources Library, Government of the Northwest Territories, Yellowknife
OOFF	Environment Canada, Ottawa
OOG	Geological Survey of Canada, Ottawa
OORD	Indian and Northern Affairs Canada, Ottawa
OOT	Transport Canada, Ottawa
YWA	Yukon Archives, Whitehorse
YWEEP	Environmental Protection Service, Environment Canada, Whitehorse
YWLS	Library Services Branch, Government of Yukon, Whitehorse

In some cases, individual copies of reports are available. A few citations contain this information. Further information on availability and source can be obtained from:

NOGAP Secretariat
Indian and Northern Affairs Canada
Ottawa, Ontario
K1A 0H4
(819) 994-6452

REPORTS AND OTHER PRODUCTS

INDIAN AND NORTHERN AFFAIRS CANADA

GRANULAR RESOURCES INVENTORY AND MANAGEMENT PROGRAM (A.4)

1984 offshore geotechnical site investigation : Herschel Sill sites, Yukon Territory / EBA Engineering Consultants Ltd. Canada. Indian and Northern Affairs Canada [Sponsor]. Geological Survey of Canada [Sponsor].
Calgary : EBA Engineering Consultants Ltd., 1984.
20, [15] p. : figures, tables ; 28 cm.
Appendices.
OORD, NWYIN

This report presents a summary of the geotechnical data collected at the Herschel Sill. ... The investigation was performed to determine the distribution, thickness and quality of potential sand and gravel deposits on the Herschel Sill, and the general stratigraphy and geotechnical properties of the area. Field testing was carried out from the Arctic Kiggiak on October 11, 1984. (Au)

Investigation of subsurface conditions at King Point, Yukon Territory / M.J. O'Connor & Associates Ltd. Canada. Indian and Northern Affairs Canada [Sponsor].
[S.l] : M.J. O'Connor and Associates Ltd., 1986.
2 v. (163 p.; unpaged) : plates, maps, tables, plans ; 28 cm.
Appendices.
References.
OORD, NWYIN

This report documents the findings of a geotechnical site investigation of the general subsurface conditions near King Point, Yukon Territory. The main objective was to acquire the necessary information to permit engineering assessment of the potential impacts of proposed developments on the offshore, coastal and onshore environments. The research program involved evaluation and synthesis of existing geological and geotechnical information, site investigation, laboratory and in situ testing, construction of a coastal sediment dynamics model, and utilization of the model to evaluate probable distributions and thicknesses of nearshore gravels. Volume I contains detailed descriptions of the research program, research conclusions and recommendations for additional investigation. Volume II (Appendices) contains borehole logs, data and test results, numerical estimates of sediment transport, proposed development scenarios and maps. (NOGAP)

Report on evaluation of granular resource potential lower Mackenzie Valley / Hardy Associates (1978) Ltd. Canada. Indian and Northern Affairs Canada [Sponsor].
Calgary : Hardy Associates (1978) Ltd., 1986.
iv, 49, [26] p. : figures, tables, maps ; 28 cm.
Appendices.
Bibliography.
OORD, NWYIN

This study involved an extensive review of existing published and unpublished geological and geotechnical literature pertinent to the distribution of surficial materials along the potential Mackenzie Valley pipeline route. The locations of all possible granular deposits were plotted and geotechnical information on each deposit was compiled in tabular form. An overall assessment in terms of material quality and quantity was made. The deposits with the highest quality materials were further assessed to determine the additional work required to evaluate fully the deposits and to develop borrow pit management plans. The study identified 292 potential granular sources in the lower Mackenzie Valley (excluding Richards Island) and summarized all pertinent geological and geotechnical parameters for each source. An overall assessment of these sources identified 52 deposits which are excellent or good prospects. Recommendations are given for further investigation of these prospects as well as for poorer quality deposits and bedrock sources to develop granular material. Summary tables of potential borrow source data and maps displaying the location and quality of deposits are included. (NOGAP)

PHYSICAL ENVIRONMENT: PROCESS AND IMPACTS (A.5)

Beaufort Sea coastal sediment study, numerical estimation of sediment transport and nearshore profile adjustment at coastal sites in the Canadian Beaufort Sea : part I , text ; part II , data / Keith Philpott Consulting Limited. Pinchin, B.M. Nairn, R.B. Philpott, K.L. Canada. Indian and Northern Affairs Canada [Sponsor]. Canada. Energy, Mines and Resources Canada [Sponsor].
Thornhill, Ontario : Keith Philpott Consulting Limited, 1985.
2 parts (various pagings) : figures, tables ; 28 cm.
(Geological Survey of Canada open file report, no. 1259)
Copies available from Maritime Resource Management Services, P.O. Box 310, Amherst, N.S., B4H 3Z5, $195.80.
Appendices.
References.
OORD, NWYIN, NSDB, OOG, ACSP, BVAG

This report responds to a need for better data on coastal processes in the Canadian Beaufort Sea for the siting and design of new shore-base facilities. Numerical estimates of alongshore sediment transport and nearshore profile adjustments are developed for the following sites: Atkinson Point, N.W.T.; Kay Point, Yukon; King Point, Yukon; North Head, N.W.T.; Stokes Point, Yukon; and Tuktoyaktuk, N.W.T. The influence of storm surges on coastal

processes is also investigated. The evolution of the shoreline at King Point under existing conditions and with a total littoral barrier structure has been modelled. Offshore and nearshore wave climates have been computed for 7 sites, the 6 mentioned above plus Pauline Cove on Herschel Island. They are based on new fourteen-year parametric hindcasts. The inshore wave climates were computed using two-dimensional spectral transfer techniques with allowance for shallow water equilibrium spectral forms. (Au)

Canadian Beaufort Sea physical shore-zone analysis : final report / Dobrocky Seatech Ltd. Harper, J.R. Reimer, P.D. Collins, A.D. Canada. Indian and Northern Affairs Canada [Sponsor].
Sidney, B.C. : Dobrocky Seatech Ltd., 1985.
viii, 105, [149] p. : figures, tables, maps ; 28 cm.
Appendices.
References.
OORD, NWYIN

An analysis of the Canadian Beaufort Sea coastal zone (Alaskan/Yukon border to Baillie Islands) was conducted to provide regional summaries of (a) coastal morphology, (b) coastal stability and (c) coastal processes. ... A total of 2,077 km of coastline were examined using aerial photographs, low altitude oblique video imagery and previously existing field studies. ... Six coastal types were defined ... and were used to characterize the coastal zone. The results indicate a predominance of erosional landform types ... with relatively few (<20%) widely dispersed accretional landforms. Over 1,000 comparisons of coastal stability were made using 1950's and 1970's air photos. The results indicate that the Beaufort Sea coast is undergoing wide scale regional retreat. ... The presence of significant quantities of terrestrial ice in the coastal sediments is one of the primary causes of the wide scale retreat. It is also hypothesized that the Canadian Beaufort Sea is undergoing a relative sea level rise, which is contributing to the rapid retreat. ... This is manifest in the dominance of erosional landforms. An important exception occurs on the western Yukon coast where long linear barrier islands appear stable. It is speculated that onshore movement of material due to ice push is the primary process responsible for supplying material to these barriers. (Au)

OFFSHORE ENVIRONMENTAL ECOSYSTEMS MONITORING (A.7)

Beaufort environmental monitoring project : 1984-1985 : final report / ESL Environmental Sciences Limited. LGL Limited. ESSA Limited. Arctic Laboratories Limited. Arctic Sciences Limited. Canada. Indian and Northern Affairs Canada [Sponsor]. Canada. Environment Canada [Sponsor].
[British Columbia ?] : [s.n.] , 1985.
xxi, 162 p. : figures, tables ; 28 cm.
Appendices.
OORD, NWYIN

The Beaufort Environmental Monitoring Project (BEMP) was initiated in 1983 to provide the technical basis for the design, operation and evaluation of a comprehensive and defensible environmental research and monitoring program to accompany phased hydrocarbon development in the Beaufort Sea. This document is the report of activities during 1984/85. The primary activities were a pre-workshop review of studies initiated from December 1983; preparation of project overviews describing the purpose of these studies and their relationship to BEMP hypotheses; the workshop itself, and preparation of this report. The report contains a summary of the conclusions and recommendations from the workshop, a review of new information relevant to the various linkages that comprise the BEMP impact hypotheses, and the rationale for specific research or monitoring recommendations. (NOGAP)

Bowhead whale monitoring study in the southeast Beaufort Sea, July-September 1984 / ESL Environmental Sciences Limited. Harwood, L.A. G.A. Borstad Limited. Borstad, G.A. Canada. Indian and Northern Affairs Canada [Sponsor]. Environmental Studies Revolving Funds [Sponsor].
Ottawa : Environmental Studies Revolving Funds, 1985.
ix, 99 p. : figures, tables, plates ; 28 cm.
(Environmental Studies Revolving Funds report, no. 009)
ISBN 0-920783-08-02
Appendices.
References.
OORD, NWYIN

Systematic aerial surveys were conducted in the southeast Beaufort Sea during the summer of 1984 to document the abundance and distribution of bowhead whales in relation to industrial activity. Overall bowhead abundance generally increased throughout the 1984 open water season, with two periods of peak abundance being noted. The apparent fluctuations in abundance coincided with changes in the general distribution and activities of whales observed, and in the oceanography of the area. During July, bowheads were generally observed in association with ice or in cold, clear water. Observed activities were diving, swimming at the surface and resting. During late August and September, most animals observed were in relatively large groups in nearshore, ice-free or open waters, feeding, socializing and congregating in specific areas. The southeast Beaufort Sea has been used by substantial numbers of bowheads in late August and September during the five years in which systematic surveys have been conducted. However, their distribution has varied markedly among surveys and years. Two hypotheses have been formulated to explain these variations. First, whales may be avoiding the industrial area as a behavioral response to industrial activity or, second, they may be responding to natural, physical, biological and oceanographic fluctuations, especially those related to food availability. The data from the current study lend support to the latter hypothesis. (NOGAP)

DISTURBANCE OF MARINE MAMMALS BY INDUSTRIAL ACTIVITY (A.8)

Spring ice breaking operations of the ship MV ARCTIC and concurrent Inuit hunting in Admiralty Inlet, Baffin Island: volume I, report ; volume II, appendix c / FMS Engineers Inc. Strandberg, A.G. Embacher, U. Sagriff, L. Canarctic Shipping Ltd. [Sponsor]. Canada. Indian and Northern Affairs Canada [Sponsor].
Calgary : FMS Engineers Inc., 1984.
2 v. (x, 57, [13] p. ; 5 p.) : figures, tables, 35 photos (col.) ; 28 cm.
Appendices.
References.
OORD, NWYIN

In July 1978, Canarctic Shipping Company Limited initiated the use of the MV ARCTIC to transport lead-zinc concentrate from the Nanisivik Mine on Strathcona Sound, Northern Baffin Island. The first inbound voyage of the MV ARCTIC through the early summer ice conditions of Lancaster Sound and Admiralty Inlet coincides and can interfere with the narwhal hunt carried out by the Inuit of the Arctic Bay area. During the summer of 1984, a study of the interaction of the ship and the hunting operation was conducted, with the following objectives: 1) to study remote sensing imagery to determine the pre-1978 natural breakup pattern and, for 1978 to 1984, the break-up pattern as influenced by the passage of the MV ARCTIC; 2) to carry out an early summer field study program documenting the interaction of the two groups, measuring results of the ship's ice breaking passage and evaluating any subsequent effect on the ice breakup process; 3) to evaluate recommendations proposed at meetings of those concerned to minimize the shipping route's impact on early summer hunting. Volume I describes the field work and the historical search done to evaluate the interaction between shipping and hunting traffic while the inlet is ice covered. Volume II contains a collection of photographs with explanatory notes about the 1984 field season program. (NOGAP)

Reactions of beluga whales and narwhals to ship traffic and ice-breaking along ice edges in the eastern Canadian high Arctic: 1982-1984 / LGL Limited, Environmental Research Associates. Finley, K.J. David, R.A. Canada. Indian and Northern Affairs Canada [Sponsor].
King City, Ont. : LGL Limited, 1984.
1 v. (various pagings) : figures, tables ; 28 cm.
References.
OORD, NWYIN

This report provides a general overview of a three-year study of the effects of ships and icebreaking on beluga whales and narwhals. This study was a response to specific concerns regarding proposals to send the MV ARCTIC through the ice in Admiralty Inlet and to a broader concern about the effects of Arctic shipping on marine mammals. Whale behavior was monitored in three states: undisturbed; when the ships

arrived and during periods of ship activity; and for short post-disturbance periods. The results clearly demonstrate that belugas and narwhals in the high Arctic are very sensitive to disturbance by shipping in the spring. However, the two species respond differently, in ways that reflect their overall survival strategies. These have been designated as a "flee" response in the beluga and a "freeze" response in the narwhal. The observable and audible behavioral traits associated with these patterns are described. (NOGAP)

Underice radiated noise measurements of the icebreaker 'CCGS John A. MacDonald' in Baffin Bay and Lancaster Sound, June 1983 / Greeneridge Sciences, Inc. Greene, C.R. Jr. Canada. Indian and Northern Affairs Canada [Sponsor].
Santa Barbara, Calif. : Greeneridge Sciences, Inc., 1984.
iv, 31 p. : figures, tables ; 28 cm.
Appendix.
OORD

In the past few years, interest has grown in year-round marine transportation over routes to high latitude ports in the Canadian Archipelago. Associated environmental concerns include the effects on marine life of noise from icebreaking operations. Few measurement data were available on the levels of hydroacoustic noise from icebreaking. In June 1983 field parties aboard the CCGS JOHN A. MACDONALD recorded sounds of icebreaking in both Baffin Bay and Lancaster Sound. This report describes the measurements and the results of one of the two field trips. (NOGAP)

Effects of explosives use in the marine environment:
(Proceedings of the Workshop on Effects of Explosives Use in the Marine Environment, January 29-31, 1985, Halifax, N.S. / Prepared by Greene, G.D. Engelhardt, F.R. Paterson, R.J.
xii, 383 p. : figures, tables ; 28 cm.)
(Canada Oil and Gas Lands Administration, Environmental Protection Branch technical report, no. 5)
Appendices.
OORD, NWYIN

The workshop objectives were: 1) to review information and data on the use of explosives and other energy sources in marine seismic exploration and marine construction, and on the nature of discharges associated with these uses; 2) to review the effects of chemical explosives and other energy sources on marine fish and mammals, and seabirds; 3) to review the effectiveness of mitigative measures in reducing the environmental effects of explosives use; and 4) to assess the adequacy of existing research methods and effects prediction models used to study and monitor marine explosives use. The proceedings contain the papers presented, discussions on the papers and general panel discussions. Specific conclusions respecting

the adequacy of current modelling and monitoring techniques are stated and areas where new research is needed are identified. The workshop also produced a summary of mitigative measures which could be useful to regulatory agencies. (NOGAP)

Field evaluation of an infra-red detection technique for surveying Arctic marine mammals / Compuheat Services Canada Ltd. Fitch, R. Dome Petroleum Limited. Ward, J.G. Dome Petroleum Limited [Sponsor]. Canada. Dept. of Fisheries and Oceans [Sponsor]. Canada. Indian and Northern Affairs Canada [Sponsor]. Federal Energy Research and Development Program (Canada) [Sponsor]. Gulf Canada Resources Inc. [Sponsor]. Petro-Canada Inc. [Sponsor].
Calgary : Compuheat Services Canada Ltd. and Dome Petroleum Limited, 1984.
30 p. : 6 plates, 2 figures, 1 table ; 28 cm.
Appendix.
References.
OORD, NWYIN

This study evaluated the feasibility of using an infra-red detection system to detect and thereby census occupied seal lairs and seals present on ice surfaces. Evaluations were carried out in the spring of 1984 in the Resolute Bay area and in the southeastern Beaufort Sea. The results showed the system to be effective in detecting seals on the ice surface under various Arctic ambient conditions. Although the equipment also showed promise in detecting and censusing occupied seal lairs, a more comprehensive test is required to determine its usefulness in this regard. (NOGAP)

IMPACTS OF INDUSTRY ON LARGE MAMMALS (A.9)

Energetics as a tool for population estimates (ringed seals and polar bears) / Stacey, B. Canada. Indian and Northern Affairs Canada [Sponsor].
Ottawa : Bruce Stacey, 1985.
36 p. : 1 figure, 7 tables ; 28 cm.
Appendix.
References.
OORD

This study makes use of the existing data base for polar bears and ringed seals in a preliminary attempt to estimate indirectly seal population levels. Traditional seal population estimates are complicated by logistical limitations of survey methodology, extent of coverage and behavioral influences on haul-out patterns. Therefore, aerial surveys of ringed seals, as of other marine mammals, are used as indicators of relative distribution and abundance rather than as population estimates. Long-term data sets exist on the abundance and age distribution of polar bears, obtained primarily from tagging programs and harvest monitoring. There is also considerable information on polar bear behaviour, physiology and

energetics. The ringed seal is the principal prey of polar bears. By combining the existing information on polar bear populations and energetics requirements, a simple model was constructed to estimate the ringed seal population. The report also presents an examination of all relevant existing data and a description of the important data gaps in the literature. (R. Hurst)

IMPACTS OF OIL AND GAS-RELATED ACTIVITIES ON CARIBOU (A.13)

Caribou and human activity:
(Proceedings of the 1st North American Caribou Workshop, Whitehorse, Yukon, 28-29 September 1983 / Edited by Martell, A.M. Russell, D.E.
Ottawa : Canadian Wildlife Service, 1985.
68 p. : figures, tables ; 28 cm.)
OORD

These proceedings contain the 18 papers presented at the 1st North American Caribou Workshop. Ten papers appear in full and the remainder appear as abstracts. The first six published papers show the variability in response of caribou populations to aircraft, highways and pipelines. Two others address the government regulatory process and the role of native users in caribou management. (NOGAP)

Investigation of the possible inter-island movements of Peary caribou across the sea ice of Prince of Wales Strait between Banks and Victoria Islands / Miller, F.L.
Edmonton : Canadian Wildlife Service, 1986.
43 p. : tables, maps ; 28 cm.
Appendices.
References.
OORD, AEECW

A bibliography of Peary caribou (Rangifer tarandus pearyi) literature was compiled that includes most references up to 1984. The bibliography comprises three sections: (1) full references and abstracts; (2) annotations relating to localities; and (3) annotations relating to subjects of relevance to Peary caribou biology. Unsystematic searches were carried out by helicopter during March and May-June 1985 to obtain evidence of inter-island movements of caribou across the sea ice of Prince of Wales Strait. The search area included all of Prince of Wales Strait, northern Amundsen Gulf, and the adjacent land areas of eastern Banks and western Victoria Islands, Northwest Territories. No direct evidence was obtained for caribou travelling on the sea ice of Prince of Wales Strait or northern Amundsen Gulf. However ... indirect evidence suggested that such movements may have occurred. (Au)

SURFACE AND SUBSURFACE DISTURBANCES INDUCED BY OIL AND GAS ACTIVITIES (A.17)

Evaluation of selected reclamation studies in northern Canada / Hardy Associates (1978) Ltd. Younkin, W. Martens, H. Canada. Indian and Northern Affairs Canada [Sponsor].
Calgary, Alta. : Hardy Associates (1978) Ltd., 1985.
vi, 279 p. : figures, tables ; 28 cm.
Appendices.
OORD, NWYIN

Expansion of resource development activity in northern Canada will be accompanied by surface and terrain disturbances requiring stabilization and rehabilitation. Over the past fifteen years, a wide range of studies and trials have been conducted over a broad geographic area. A major goal of this study was to organize, evaluate and summarize selected revegetation information relating to the western Northwest Territories and Yukon. Revegetation study sites were a mixture of research plots and reclaimed sites. Many of the studies were species and fertilizer trials, although information was also collected on selected impacts such as winter roads and methanol spills and, where available, on the rate of natural recovery. The individual studies have been grouped according to phytogeographic region and study area. The report compiles in summary form all information about each of the selected studies to 1984. A 1984 site assessment, which contains a brief description of site conditions and data collected at that time, is also presented. Conclusions are directed toward current reclamation concerns. Recommendations concern further protection of the sites and further assessment needs. (NOGAP)

Norman Wells pipeline monitoring sites ground temperature data file: 1984-1985 / Burgess, M.M.
Ottawa : Energy, Mines and Resources Canada, 1986.
21 [64] p. : figures, tables ; 28 cm.
(Earth Physics Branch open file, 86-6)
Appendices.
OORD, NWYIN

The Earth Physics Branch of the Department of Energy, Mines and Resources, in cooperation with the Department of Indian and Northern Affairs and Interprovincial Pipe Line Ltd., has undertaken a long-term ground thermal regime monitoring program to examine the effect of the construction and operation of the Norman Wells pipeline on permafrost and terrain conditions. The program focusses on thirteen monitoring sites representing a cross section of the terrain types encountered by the buried oil pipeline as it traverses the discontinuous permafrost zone. The monitoring sites, six of which were established in 1984 and seven in 1985, are instrumented with multithermistor temperature cables; in total there are 97 ground temperature cables and 23 pipe temperature cables. This report is a collection of the data gathered from these cables in 1984 and 1985. (Au)

HYDROCARBON ACTIVITIES: MARINE RESEARCH AND MANAGEMENT (A.20)

Oxygen demand of oiled drill cuttings / Seakem Oceanography Ltd.
Hutcheson, M.S. Boyle, D. MacLean, M. Odense, R. Erickson, P.
Canada. Indian and Northern Affairs Canada [Sponsor].
Dartmouth, N.S. : Seakem Oceanography Ltd., 1986.
iv, 50 p. : figures, tables ; 28 cm.
Appendices.
References.
OORD, NWYIN

This report describes a laboratory study of the oxygen demand of oiled drill cuttings layered over natural marine sediments. Treatments and the test temperature were chosen to reflect conditions in the Canadian Arctic where oiled drill cuttings currently pose a solid waste disposal problem. A review of methods for determining the oxygen demand of aquatic sediments was conducted and a core incubation procedure using the micro-Winkler titration method was chosen to use in the experiments. A review of work related to the oxygen demand of oiled sediments was also performed. The primary emphasis of the study was to determine the total sedimentary oxygen demand at time intervals to 30 days of oiled drill cuttings layered over either coarse (sand) or fine marine sediments in 1, 2.5, 5 and 15 mm thicknesses. Redox potential (Eh) profiles were made through the cuttings and sediment each time oxygen demand was determined. A secondary objective was to determine changes in the pore water concentrations of mercury, copper, cadmium, lead and zinc with time. ... (Au)

Sampling and analysis in the arctic marine benthic environment: vol. I : review of methods ; vol. 2 : guide to practice / Arctic Laboratories Ltd. Environmental Protection Service [Sponsor].
[S.l] : Arctic Laboratories Ltd., 1985.
2 v. (xxi, 511 p. ; xiv, 257 p.) : figures, tables ; 28 cm.
Appendices.
References.
OORD

This report is a guide for managers and planners involved in the collection and analysis of environmental data from marine sediments in arctic regions. Volume I, which provides an overview of available methods and serves as a background document to the second volume, is organized into three sections: 1) an introduction outlining the background and rationale for the project; 2) a review of sampling methods; and 3) a review of analytical techniques. This review is not exhaustive; rather, it focusses on methods in current use and relatively new methods which appear to offer significant improvements. Volume 2 is intended to provide guidance in planning and in choosing appropriate methods for a variety of situations, conditions and objectives. It outlines in a step-by-step manner the factors to be considered and offers suggestions as to possible methods to achieve various results. Users are referred to other manuals or articles in which detailed procedures are given. (NOGAP)

FISHERIES AND OCEANS

CRITICAL ESTUARINE AND MARINE HABITATS OF THE CANADIAN ARCTIC COASTAL SHELF (B.2)

Research and monitoring priorities for the Department of Fisheries and Oceans (Western Region) in the Canadian Arctic identified at the habitat surveys workshop, Winnipeg, November 1984 / Arctic Laboratories Limited. ESL Environmental Sciences Limited. Thomas, D.J. Duval, W.S. Canada. Dept. of Fisheries and Oceans [Sponsor].
[S.l. : s.n.] , 1985.
i, 32 p. : tables ; 28 cm.
(NOGAP report, no. B.2-2)
Appendices.
OORD, MWFW

This report summarizes the major conclusions reached at a workshop on biological and habitat research and monitoring priorities for the Beaufort Sea and Northwest Passage relevant to NOGAP. Discussions during the workshop primarily concerned effects monitoring and research required to support effects monitoring. Using an iterative approach, priorized lists of research and monitoring topics were developed. A general outline or approach to research and monitoring projects was prepared for the first six research topics and the first five monitoring projects. (NOGAP)

Arctic charr population studies: 1. Big Fish River ; 2. river system survey / Gillman, D.V. Sparling, P. Gillis, B. Canada. Dept. of Fisheries and Oceans [Sponsor].
[S.l. : s.n.] , 1985.
57 p. : figures, tables ; 28 cm.
(NOGAP report, no. B.2-3)
Internal report prepared for the Arctic Resource Assessment Section, DFO, Western Region.
OORD, MWFW

This study focussed on the Big Fish River, NWT where, during August and September 1984, a domestic survey at the mouth, a survey of the entire river system to identify possible weir locations and a tagging program at the "Fish Holes" location on the upper area of Cache Creek were conducted. Local fishermen were interviewed as to species and total numbers of fish caught, net used, duration of set and utilization of the catch. Two possible weir locations were identified and mapped on the lower portion of the Big Fish River and one above the confluence of Big Fish River and Cache Creek. A total of 467 Arctic charr were captured and tagged. Captured fish were sampled live for sex and length. A random sample of 192 Arctic charr from the domestic fishermen's catch was also reviewed. Age and length frequency distributions, catch per unit of effort and daily numbers of Arctic charr taken are presented. (NOGAP)

Identification keys to the Isopoda, Cumacea, Decapoda, Euphausiacea and Mysidacea zooplankton of the Beaufort Sea / Invertebrate Research Associates. Arntfield, P. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Invertebrate Research Associates, 1985.
vi, 34 p. : figures ; 28 cm.
(NOGAP report, no. B.2-4)
Working draft report.
References.
OORD, MWFW

Taxonomic keys and biological information are provided for zooplankton species from the Beaufort Sea. Ten species: Eualus gaimardi (Milne-Edwards), Sabinea septemcarinata (Sabine), Thysanoessa longipes Brandt, Thysanoessa inermis (Kroyer), Thysanoessa raschii (M. Sars), Mysis oculata (Fabricius), Mysis relicta Loven, Mysis litoralis (Banner), Diastylis rathkei (Kroyer) and Mesidotea entomon (Linnaeus) are represented. (Au)

Taxonomic key to the pelagic amphipods (Crustacea, Amphipoda) inhabiting the Beaufort Sea / Invertebrate Research Associates. Korczynski, R.E. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Invertebrate Research Associates, 1985.
vi, 79 p. : figures ; 28 cm.
(NOGAP report, no. B.2-5)
Working draft report.
References.
OORD, MWFW

The taxonomic key presented is to 18 species of pelagic amphipods collected in plankton tows taken over the continental shelf in the Beaufort Sea. The key is subdivided into a series of dichotomous keys to suborder, family, and species with pertinent illustrations. Useful references as well as notes on distribution are provided. (Au)

Analysis of satellite digital imagery in support of DFO oceanographic operations in the Beaufort Sea / G.A. Borstad Ltd. Borstad, G.A. Canada. Dept. of Fisheries and Oceans [Sponsor].
Sidney, B.C. : G.A. Borstad Ltd., 1985.
7 p. : figures : 28 cm.
(NOGAP report, no. B.2-7)
Working draft report.
References.
OORD, MWFW

Thermal and broad-band visible imagery from the NOAA 7 satellite was obtained over the southern Beaufort Sea during the months of July, August and September 1984. Digital data were then analyzed to produce maps of sea surface temperature and turbidity. The report describes the methodologies employed, discusses the limitations of satellite imagery and provides a qualitative analysis of the four NOAA 7 AVHRR images obtained as part of the project. (NOGAP)

Taxonomic key to the benthic polychaeta of Tuktoyaktuk Harbour, Northwest Territories / Invertebrate Research Associates. Konrad, S.-L. R. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Invertebrate Research Associates, 1985.
vii, 83 p. : figures ; 28 cm.
(NOGAP report, no. B.2-12)
Working draft report.
OORD, MWFW

The benthic polychaete species of Tuktoyaktuk Harbour, N.W.T. have been systematically addressed. A precis of polychaete characteristics and identification techniques are provided. Single access, dichotomous keys to 11 families and 18 species effectively present the taxonomic criteria required to separate these taxa. Family or species descriptions, based on the literature and specimens from Tuktoyaktuk Harbour, provide a verification of each definitive choice in the keys. Illustrations and an extensive glossary complement the text. (Au)

Taxonomic key to the Tubificoides (Oligochaeta, Tubificidae) inhabiting Tuktoyaktuk Harbour, Northwest Territories / Invertebrate Research Associates. Korczynski, R.E. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Invertebrate Research Associates, 1985.
v, 24 p. : figures ; 28 cm.
(NOGAP report, no. B.2-13)
Working draft report.
References.
OORD, MWFW

The illustrated taxonomic key presented is to the Tubificoides (Oligochaeta, Tubificidae) inhabiting Tuktoyaktuk Harbour, Northwest Territories. Two species, namely Tubificoides cuspisetosus Baker and Tubificoides pseudogaster (Dahl), are described. The ecology and distribution of the family Tubificidae are discussed. (Au)

Identification of molluscs from Tuktoyaktuk Harbour, Northwest Territories / Invertebrate Research Associates. Arntfield, P. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Invertebrate Research Associates, 1985.
iv, 23 p. : figures ; 28 cm.
(NOGAP report, no. B.2-14)
Working draft report.
References.
OORD, MWFW

Keys to the identification and biological information for Cylichna alba Brown, Trichotropis borealis Broderip and Sowerby, Oenopota arctica (A. Adams), Yoldiella intermedia (M. Sars), Yoldiella frigida (Torell), Cyrtodaria kurriana Dunker and Macoma inconspicua (Broderip and Sowerby) are presented for these molluscs from Tuktoyaktuk Harbour, Northwest Territories. (Au)

Taxonomic key to the benthic amphipods (Crustacea, Amphipoda) inhabiting Tuktoyaktuk Harbour, Northwest Territories / Invertebrate Research Associates. Korczynski, R.E. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Invertebrate Research Associates, 1985.
vi, 60 p. : figures ; 28 cm.
(NOGAP report, no. B.2-15)
Working draft report.
References.
OORD, MWFW

The taxonomic key presented is to 11 species and 8 genera of benthic amphipods collected in Tuktoyaktuk Harbour, Northwest Territories. The key is subdivided into a series of dichotomous keys to suborder, family, and species. Pertinent illustrations, references and species distribution are provided. (Au)

Taxonomic key to the benthic isopoda inhabiting the Beaufort Sea and Tuktoyaktuk Harbour, Northwest Territories / Invertebrate Research Associates. Korczynski, R.E. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Invertebrate Research Associates, 1985.
vi, 83 p. : figures ; 28 cm.
(NOGAP report, no. B.2-23)
Working draft report.
Appendix.
Bibliography p. 78-82.
OORD, MWFW

The taxonomic key presented is to eleven species of benthic isopods collected in the Beaufort Sea including Tuktoyaktuk Harbour, Northwest Territories. The key is subdivided into a series of dichotomous keys to suborder for the Asellota, Gnathiidea, and Valvifera, to family and species. Pertinent illustrations, references and species distribution are provided. (Au)

CRITICAL WESTERN ARCTIC FRESHWATER HABITATS (B.3)

Review of the limnology of the Mackenzie Delta and Tuktoyaktuk Peninsula / Agassiz North Associates Ltd. Ramsey, D. Ramlal, P. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Agassiz North Associates Ltd., 1985.
Unpaged : tables, maps ; 28 cm.
Appendices.
Bibliography, 38 p.
References.
OORD, MWFW

This report reviews the available information on the limnology of the Mackenzie Delta to provide a general description of the factors limiting primary and secondary productivity and those factors limiting utilization of that production by fish. The report includes a bibliography of arctic limnology and a listing of plankton collections from Mackenzie Delta and Tuktoyaktuk Peninsula lakes. (NOGAP)

Migration, reproduction and feeding of lake whitefish, broad whitefish and arctic cisco in the Mackenzie River-Beaufort Sea region : a review of the literature / North/South Consultants Inc.
Strange, N.E. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : North/South Consultants Inc., 1985.
iii, 47 p. : figures ; 28 cm.
Bibliography: p. 30-39.
OORD, MWFW

Lake whitefish, broad whitefish and arctic cisco from the Mackenzie are discussed with respect to migration, reproduction and feeding. All three species are anadromous, showing definite migrations to spawning grounds, as well as to feeding, overwintering and nursery areas (juveniles). All are fall spawners and move from overwintering areas to spawning grounds upstream in the Mackenzie River and its tributaries. ... The importance of three habitats is discussed. (1) The delta region ... (2) Freshwater systems (lakes and streams) ... (3) Coastal areas, especially bays and lagoons, along Richards Island, Tuktoyaktuk Peninsula and the Yukon coast.... (Au)

Development of methodologies for close interval temperature sensing across a sediment-water surface / Flett Research Ltd. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : Flett Research Ltd., 1985.
2, [3] p. : figures ; 28 cm.
OORD, MWFW

This report describes the following problems encountered in developing methodologies for close interval temperature sensing across the sediment-water interface: heat transfer with electrical conductors; temperature-sensing materials (temperature insensitivity); rapid response time with 0.01 deg. C accuracy; need for continuous operation at a maximum depth of 30 m; and requirement for computer compatible data. Solutions to these problems are presented. (NOGAP)

Effects of physical and chemical gradients on the abundance and distribution of aquatic invertebrate species in the Mackenzie Delta : I. Preliminary review of unpublished data / Bilyj, B.
Canada. Dept. of Fisheries and Oceans [Sponsor].
[S.l. : s.n.] , 1985.
43 p. in various pagings : figures, tables ; 28 cm.
(NOGAP report, no. B.3-3)
Appendices.
OORD, MWFW

... Data on invertebrate species, physical measurements and chemical analyses taken at fifty-eight Delta stations representing freshwater lentic and lotic and marine estuarine habitats were compiled, synthesized and summarized. ... a total of 259 species were collected.... Distributional patterns and densities of 50 of the most abundant Chironomidae species are plotted. The benthic community at each station-year(s) is characterized using % composition of major taxa, number of species and the Shannon-Weaver diversity index. The sampling habitats are described using a series of physical and chemical parameters. Ranges, means and sample numbers are summarized for 8 on-site measurements consisting of max. depth, turbidity, water temperature, conductivity, pH, salinity, DO and alkalinity; 5 categories of bottom sediment composition ... and finally a series of chemical analyses for the following: major ions ... total dissolved particulate and bottom concentrations of nutrient elements ... and particulate seston. ... (Au)

Results of a broad whitefish collection in freshwater systems along the Tuktoyaktuk Peninsula and in the inner Mackenzie Delta region / North/South Consultants Inc. Strange, N.E. MacDonell, D.S.
Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg : North/South Consultants Inc., 1985.
iv, 25 p. : figures, tables ; 28 cm.
Appendix.
References.
OORD, MWFW

This report describes the materials and methods used to collect broad whitefish from freshwater systems on the Tuktoyaktuk Peninsula and the inner Mackenzie Delta, and to deliver these samples fresh frozen to the Freshwater Institute for subsequent analysis. (NOGAP)

HYDROGRAPHY, NORTHWEST PASSAGE (B.4)

Over-the-ice hydrographic survey for Canadian Hydrographic Service of Arnott Strait, Queen Elizabeth Islands, N.W.T., 1985, final field report / The McElhanney Group Ltd. Canada. Dept. of Fisheries and Oceans [Sponsor].
Calgary : The McElhanney Group Ltd., 1985.
ii, 27, [32] p. : figures ; 28 cm. + 2 charts (1:40,000 ; 100 x 100 cm.)
Appendices.
OORD

The purpose of this survey was to improve and update existing data in the Arnott Strait area. The survey was carried out during March and April 1985 and required approximately 13,000 spot soundings on a 200 m grid. This report provides detailed descriptions of the logistics and methodology involved in the survey. It was the first time that a computer and elaborate CRT system were used in this type of survey. The system performed without incident and all potential data were recorded on disk. All facets of the operation went smoothly with accurate data being the final result. (NOGAP)

Tidal propagation measurements in Baffin Bay, Lancaster Sound, and Nares Strait / Greisman, P. Grant, S. Blaskovitch, A. van Hardenburg, B.
Dartmouth, N.S. : Canadian Hydrographic Service, 1986.
viii, 548 p. : figures, tables : 28 cm.
(Canadian contractor report of hydrography and ocean sciences, no. 25)
Appendices.
References.
Supply and Services Canada Cat. No. FS 97-17/25E.
OORD

The authors deployed twenty-nine tide gauges and five current meters through the sea ice along the east coast of Baffin Island, in Lancaster Sound and in Nares Strait during late February and recovered them in late April of 1985. Most of the instruments collected data of good quality. In addition, the authors report on three tide gauges deployed by the Bedford Institute and in place for over one year. Subsequent harmonic analyses of tidal constituents show that the tides are mainly semi-diurnal in character with ranges up to about 7 m. Tidal currents measured in Nares Strait reached velocities up to 50 cm/s. Cotidal charts constructed using all available data show that the tides enter Baffin Bay from the south through Davis Strait and progress along the eastern shore and around the bay counter clockwise, propagating westward into Lancaster Sound. In Nares Strait, the tides enter from both the south through Smith sound and from the Lincoln Sea to the north to form a nearly standing wave in Kane Basin. (Au)

HYDROGRAPHY, MACKENZIE RIVER (B.5)

Sailing directions - Great Slave Lake and Mackenzie River / Canadian Hydrographic Service.
6th Edition
Ottawa : Dept. of Fisheries and Oceans, 1985.
xiv, 158 p. : ill. 1 fold. map ; 25 cm.
ISBN 0-660-11820-3
Available from the Canadian Hydrographic Service Chart Distribution Office, Ottawa.

This volume deals with the Athabasca-Mackenzie waterway, extending from Fort McMurray, Alberta to Tuktoyaktuk, N.W.T. It contains a detailed description of the waterway, comprising the Athabasca River, Lake Athabasca, the Slave River, Great Slave Lake, the Mackenzie River, and a general description of the Liard River, the Fort Nelson River, Great Bear Lake, the Great Bear River, the Arctic Red River and the Peel River. (NOGAP)

BEAUFORT SEA OCEANOGRAPHY (B.6)

Arctic industrial activities compilation: volume 1 : Beaufort Sea : marine dredging activities 195 to 1982 / Taylor, D.A. Reed, M.G. Smiley, B.D. Floyd, G.S.
Sidney, B.C. : Institute of Ocean Sciences, 1985.
xiii, 192 p. : figures, tables, photos ; 28 cm.
(Canadian data report of hydrography and ocean sciences, vol. 1, no. 32)
Appendices.
References.
Supply and Services Canada Cat. No. Fs 97-16/32.
OORD

Marine dredging has occurred over the past 25 years in the Canadian Beaufort Sea. During the period 1959 to 1982, approximately 46.5 million cubic meters of seabottom materials, mostly sand, clay, and gravel, were dredged by and for petroleum companies, communities, and government development agencies. ... The majority of recorded dredging operations (95 out of 109) were associated with the construction of artificial islands for exploratory drilling (29.0 million m^3) and coastal harbours for anchorage and shorebase support (17.2 million m^3). Most offshore dredging occurred in water depths less than 50 m. Tuktoyaktuk Harbour and McKinley Bay have been locations of extensive coastal dredging. ... The peak of annual dredging (95% of total volume) occurred in the open water months of July to October. Annual dredging requirements exceeded 4 million m^3 in years since 1976, principally because of accelerated oil exploration. The most common dredge in use was a cutter suction type, specifically, the Aquarius, which has dredged 34% of all Beaufort requirements. This historical dredging overview is based on the compilation and archiving of over 100 individual dredging

operations reported in government and industry records to 1982. A computer database was employed to organize operation details. ... A complete listing of this dredging database is provided in this report. Computer-drawn maps show the locations of all past dredging operations. Appendices include summaries of legislation applicable to Beaufort Sea dredging and a Canadian dredging perspective by region. (Au)

Arctic industrial activities compilation: volume 2 : Sverdrup Basin: hydrocarbon exploration 1974 to 1984 / Sackmann, T. Smiley, B.D.
Sidney, B.C. : Institute of Ocean Sciences, 1985.
xiii, 181 p. : figures, tables, maps ; 28 cm.
(Canadian data report of hydrography and ocean sciences, vol. 2, no. 32)
Appendices.
References.
Supply and Services Canada Cat. No. Fs 97-16/32.
OORD

This report provides an historical overview of seismic and hydrocarbon drilling activities in the Sverdrup Basin region, Northwest Territories. The review of seismic exploration activities includes a discussion of the vehicles, energy sources used in seismic surveys, timing of field operations, an outline of operator involvement in seismic exploration, and the areal and chronological distribution of these activities. The discussion text is supplemented with computer-drawn maps of seismic transects shot during individual programs. Hydrocarbon exploration and delineation drilling activities are reviewed. ... An experimental offshore gas well completion at the Panarctic Drake Point F-76 well is outlined. Operator involvement in drilling activities is discussed followed by a review of the areal and chronological distribution of drilling activities. The text is supplemented with maps showing drilling locations segregated according to the proponent and the year of operation. The layout and activities at the Rae Point, Melville Island support base are reviewed, as are onshore and offshore drilling fluid disposal practices. Individual descriptions of seismic programs and wellsite activities, as well as tradenames and usages of common drilling fluid components and additives are listed in the appendices. (Au)

Method for preliminary assessment of environmental impact / ESL Environmental Sciences Limited Duval, W.S. Harwood, L.A. Martin, L.C. Smiley, B.D. Canada. Dept. of Fisheries and Oceans [Sponsor].
Vancouver : ESL Environmental Sciences Limited, 1985.
ii, 50 p. : figures, tables ; 28 cm.
2nd draft, March 1985.
Appendices.
Glossary.
References.
OORD

The method described in this report is intended for use as a screening tool to identify the most important environmental concerns associated with a development proposal and relevant questions or information gaps that warrant more detailed evaluation. It is intended for use at the preliminary or initial stage of the review process and is limited to assessments involving biological resources. Some key aspects of this method include application of consistent criteria for assessment, standardization of some commonly used terminology and a list of background information sources for subsequent peer review (audit trail). The population level of biological organization was selected as the basic working unit for this assessment method. To focus the assessment on populations of greatest ecological, economic and social concern, the Valued Ecosystem Components (VECs) concept of Beanlands and Duinker (1983) was adopted. The report describes the seven basic steps which comprise this preliminary impact assessment method. (NOGAP)

Role of precision and accuracy in judging the reliability of biological measurements: a compendium of some perspectives by biologists / Smiley, B.D. [Editor]. Canada. Dept. of Fisheries and Oceans [Sponsor].
Sidney, B.C. : Institute of Ocean Sciences, 1984.
iii, 24 p. : figures ; 28 cm.
References.
OORD

Since 1979, the Institute of Ocean Sciences ... has embarked on the compilation and appraisal of historical oceanographic data in the Canadian Arctic. The data's documentation about collection and analysis methodology is tabularized, mapped, and indexed in a series of inventory publications. ... These inventories also include a relatively simple, and to the greatest degree possible, objective rating scheme for appraising the reliability of the data. ... The [four papers contained in this compendium] were prepared, as debatable viewpoints, by the compiler-appraisers of the three biological inventories: whales, fishes, and zoobenthos. ... These authors agree that accuracy and precision are difficult challenging criteria for assessing the reliability of many biological

measurements, especially when standards are absent. Nevertheless, they conclude that measurement quality must improve by new and improved application of such assurances and controls. Professional judgement is demanded in all cases. (Au)

Fishes, invertebrates and marine plants : the Beaufort Sea and the search for oil / Percy, R. Smiley, B. Mullen, T. Childerhose, R.J. [Editor].
[S.l.] : Beaufort Sea Project, 1985.
167 p. : figures, tables, illustrations ; 23 cm.
(Beaufort Sea project overview report series)
Appendices.
CORD

This is the final volume of the Beaufort Sea Project series of Overview Reports. Its theme is a general outline of life histories and behavior of Beaufort Sea region fishes, marine invertebrates and plant life, and their relationship with each other and their surroundings. It explains the dependence of these life forms on the Mackenzie River, estuary and Arctic Ocean, the necessity for flexible "life-styles" forced on them by fluctuating conditions of salinity, temperature, ice, the availability of prey and the presence of predators (including man). The format of this report is geographical: beginning with the Mackenzie River, then moving downstream to the estuary, and into the Beaufort Sea. ... The report then introduces Industrial Man to the scene, primarily the people involved in the exploration for gas and oil reserves. Use of the fish resource by native fishermen is discussed, as are the socio-economic effects of the oil industry presence. The dangers and effects of possible oil spills on the various life forms are outlined in the concluding sections of the report. (Au)

NON-SUMMER ECOLOGY (B.9)

Review of current information on arctic cod (Boreogadus saida Lepechin) and bibliography / Sameoto, D.
Dartmouth, N.S. : Bedford Institute of Oceanography, 1984.
71 p. : figures ; 28 cm.
Bibliography: p. 30-71.
CORD

The Arctic cod, Boreogadus saida (Lepechin), is one of the most important organisms in the food chain of the Canadian Arctic seas. Because of this importance, the possible effects of oil spills on it are of concern. This report summarizes the current state of knowledge of the biology and distribution of the Arctic cod, including taxonomy, geographic distribution with seasonal variations, life cycle, diet, predators and association with ice. (NOGAP)

Arctic marine photoautrophic picoplankton / Smith, J.C. Platt, T. Li, W.K.W. Horne, E.P.W. Harrison, W.G. Subba Rao, D.V. Irwin, B.D.
(Marine ecology : progress series, v. 20, Jan. 1985, p. 207-220, figures, tables)
References.

Abundance and activity of picoplankton (here defined as cells passing a 1 um Nucleopore screen) were studied in northern Foxe Basin, eastern Canadian Arctic. Substantial proportions (10 to 70%) of the chlorophyll a content, ribulose-1,5-biphosphate carboxylase activity (RuBPC, E.C. 4.1.1.39) and autofluorescest bodies present in whole seawater samples passed a 1 um screen intact, photoautrophic particles. A smaller fraction (10 to 25%) of the light-dependent ^{14}C fixation was found in this picoplankton fraction, the difference possibly explained by a selective effect of screening on photosynthetic activity rather than by heterotrophic uptake of algal exudates. About 10% of the whole sample RuBPC was found to pass a 0.2 um diameter screen, indicating the presence of autotrophy in marine ultramicrobacteria (femtoplankton). A potential for growth in the femtoplankton fraction was also indicated by substantial fixation of tritiated nucleic acid precursors into macromolecules. (Au)

Measuring photosynthetic action spectra of natural phytoplankton populations / Lewis, M.R. Warnock, R.E. Irwin, B. Platt, T. /
(Journal of phycology, v. 21, 1985, p. 310-315, figures, table)
References.

The photosynthetic response, defined as the initial slope of the photosynthesis-irradiance curve, was determined spectrally (every 25 nm from 400 to 675 nm; 25 nm half-maximum bandpass) for natural phytoplankton populations from High Arctic, Grand Banks and Sargasso Sea waters, as well as for populations living in the lower margin of sea ice off Newfoundland. All spectra were similar in shape with a maximum at 425-450 nm, a broad shoulder of 550 nm, a valley from 600 to 650 nm and a rise at 675 nm. The error resulting from the use of spectrally averaged initial slope to predict photosynthesis under different optical and fluid dynamical conditions at sea is discussed. (Au)

Utility of light-saturation models for estimating marine primary productivity in the field: a comparison with conventional "simulated" in situ methods / Harrison, W.G. Platt, T. Lewis, M.R.
(Canadian journal of fisheries and aquatic sciences, v. 42, no. 5, 1985, p. 864-872, figures, tables)
References.

Primary production rates derived from model photosynthesis-light (P-1) curves and daily solar radiation data were compared with direct measurements using "simulated" in situ incubations in arctic and temperate marine waters. On the average, model estimates were slightly higher in surface waters and significantly lower at the bottom of the euphotic zone (1% light level) than were the measured values. This could be partially explained by spectral differences in incubation light sources. However, areal production rates were statistically indistinguishable. Use of P-1 models without a photo-inhibition term and incorporating P-1 parameters from mixed-layer populations gave the best overall agreement with directly measured production rates. (Au)

Photoadaptation of high Arctic ice algae / Cota, G.F.
(Nature, v. 315, 16 May 1985, p. 219-222, figure, tables)

In aquatic systems, the layer that is suitable for positive net photosynthesis (the euphotic zone) is usually considered to extend from the surface down to the depth of penetration of 1% of the surface irradiance, which corresponds to 15uE $m^{-2}s^{-1}$ at solar noon during late summer in open waters in the High Arctic. In polar regions, vernal blooms of epontic algae (unicellular algae associated with the lower interface of sea ice whose photosynthetic characteristics are not well known) develop under conditions where they are only rarely or briefly exposed to light levels exceeding 1-2% of that incident at the surface. ... Epontic algae from the Canadian Arctic show unusually high photosynthetic efficiencies normalized to pigment content, which increase with a decrease in the light levels at which the populations are growing. ... Taken together, the results indicate that epontic algae from the high Arctic can be considered as an obligate shade flora genetically constrained to very low photon fluxes. (Au)

DFO NOGAP COORDINATION (B.11)

Report of the workshop on an Arctic marine conservation strategy for the Department of Fisheries and Oceans, May 6-8, 1985 / Arctic Offshore Development Committee (ARCOD), Canada. Dept. of Fisheries and Oceans.
Winnipeg : Dept. of Fisheries and Oceans, July 1985.
iii, 63 p. : figures ; 28 cm.
(ARCOD working paper, no. 85-3)
Internal working paper.
CORD, MWFW

The ARCOD-sponsored workshop on a DFO Arctic Marine Conservation Strategy included participants from agencies with a strong interest in Arctic marine conservation. Separate working groups examined conservation requirements related to harvesting, non-renewable resources, and transportation and protected areas. Plenary sessions compared results and put together the proposed elements of an implementation strategy. This report describes the proceedings and conclusions of the workshop, and contains its official record. (NOGAP)

ENVIRONMENT CANADA

CRITERIA FOR THE CONTROL AND MONITORING OF PETROLEUM DEVELOPMENT IMPACTS ON THE MACKENZIE RIVER (C.2)

Assessment of freshwater impacts from the Norman Wells oilfield development: part I : chemical characterization of Norman Wells crude oil refinery effluent and cooling water, literature review of fate and effects, research program design / E.V.S. Consultants Ltd. Canada. Environment Canada [Sponsor].
North Vancouver, B.C. : E.V.S. Consultants Ltd., 1985.
x, 139 [14] p. : figures, tables ; 28 cm.
Appendices.
References.
OORD

This study has characterized the hydrocarbon constituents of produced oil, refinery effluent and cooling water from the Norman Wells refinery. In addition, a thorough literature review of fate and effects was undertaken. As the only industry/refinery on the Mackenzie River, the refinery effluent is a possible source of contaminants. However, in this study, composite and grab samples indicated that effluent water quality was good in comparison with most other oil refinery effluents in terms of conventional parameters (e.g. phenols, total organic carbon, ammonia). In relation to the effluent, cooling water samples contained much reduced concentrations of hydrocarbons. The most prominent compound in the refinery effluent (also found in the cooling water) was morpholine. As fish detect and imprint this compound at extremely low concentrations, it is possible that this constituent may be acting to "imprint" and/or chemically attract fish into the effluent plume. Further investigations would be required to define the importance of this concern. Analysis of the Norman Wells crude oil suggests that any impacts from short term spills would be minimal due to the volatilization and biodegradation of many of its constituent hydrocarbons. (NOGAP)

Assessment of freshwater impacts from the Norman Wells oilfield development: part II : field and laboratory studies / Morgan, J.D. Vigers, G.A. Nix, P.G. E.V.S. Consultants Ltd. Canada. Environment Canada [Sponsor].
North Vancouver, B.C. : E.V.S. Consultants Ltd., 1986.
2 v. : figures, tables, photos ; 28 cm.
v.1. Final report. v.2. Appendices.
Appendices.
References.
OORD

... Fish bile can be readily collected in the field and represents a discrete concentrated component of aromatic hydrocarbon conjugates (metabolites) that can be quantified by direct-injection, high

performance liquid chromatography with fluorescent detection.... Parent compounds can also be determined by preparing a hydrolysate of the bile for analysis. ... For the present study, burbot and Arctic grayling were exposed for 10 days in cages at sites upstream and downstream from known point sources of hydrocarbon inputs (e.g. refinery effluent, natural oil seeps). After the period of exposure, fish bile was analyzed and the results compared with the following: analysis of muscle tissue for volatile aromatic compounds by a purge and trap technique...; examination by members of the local communities for fish acceptability (i.e. colour of liver, watery flesh); and river water and sediment quality using gas chromatography/mass spectrometry. Limited laboratory bioassays were also undertaken to confirm results of the field studies and to assess any enhanced impacts of simulated conditions of ice cover on fish survival and bile PAH levels. ... It was concluded that bile analysis of resident fish populations, and experimentally exposed fish, is a promising biochemical/enzymatic indicator of hydrocarbon contamination in freshwater fishes. Further investigations are required to confirm the applicability of this technique in demonstrating relationships between liver histopathology and hydrocarbon exposure, and in discerning localized and downstream impacts. (Au)

POINT SOURCE IMPACT MONITORING TECHNIQUES - MARINE BENTHIC ENVIRONMENT (C.3)

Sampling and analysis in the Arctic marine benthic environment: vol. 1 : review of methods ; vol. 2 : guide to practice / Arctic Laboratories Ltd. Canada. Environmental Protection Service [Sponsor].
[S.l] : Arctic Laboratories Ltd., 1985.
2 v. (xxi, 511 p. ; xiv, 257 p.) : figures, tables ; 28 cm.
Appendices.
References.
OORD

This report constitutes a guide for managers and planners involved in the collection and analysis of environmental data from marine sediments in arctic regions. Volume 1, which provides an overview of available methods and background for volume 2, reviews sampling methods and analytical techniques. The review focusses on methods in current use and relatively new methods which appear to offer significant improvements. Volume 2 is intended to provide guidance in planning and in choosing appropriate methods for a variety of situations, conditions and objectives. It outlines step-by-step the factors to be considered and offers suggestions as to possible methods to achieve various results. Users are referred to other manuals or articles in which detailed procedures are given. (NOGAP)

A BEAUFORT ATLAS: BACKGROUND INFORMATION FOR IMPLEMENTING MARINE OILSPILL COUNTERMEASURES (C.6)

Environmental atlas for Beaufort Sea oil spill response : phase I /
DF Dickins Associates Ltd. Dickins, D.F. Bjerkelund, I.E. ESL Environmental Sciences Limited. Martin, L.C. Ross, S.L. Environmental Research Limited. Potter, S.G. Canada. Environmental Protection Service [Sponsor].
Vancouver, B.C.: DF Dickins Associates Ltd., 1986.
110 p. in various pagings : tables ; 28 cm. + mock-up of atlas (unpaged : maps (some col.), figures ; 21 x 28 cm.)
Appendices.
References.
OORD, NWYEEP, AEEPS, BVAEP, OOFF, YWEEP

This project is to synthesize environmental information relevant to planning and implementing year-round oil spill countermeasures in coastal and offshore areas of the Canadian Beaufort Sea from the USA/Canada border eastward to west of Baillie Islands. The proposed environmental atlas will utilize information in the following main subject areas: physical environment, human use considerations, biological resources, and countermeasures considerations. Site-specific countermeasures information will be limited to identifying environmental and logistical constraints which could affect the implementation of appropriate response strategies. These strategies will be described in general terms and used in presenting a limited number of representative oil spill scenarios. The atlas will emphasize a high quality graphical presentation of current information. Phase 1 is concerned primarily with issues of content, information sources, format and presentation. (NOGAP)

MIGRATORY BIRD DISTURBANCE, ASSESSMENT AND MANAGEMENT (C.7)

Key areas for birds in coastal regions of the Canadian Beaufort Sea /
Smyth, K.E. Barry, T.W. Dickson, D.L.
Edmonton, Alta. : Canadian Wildlife Service, 1986.
v, 88 p. ; 28 cm. + map volume (9 p. : maps ; 30 x 40 cm.)
Appendices.
References.
OORD, NWYGI, YWLS, ACDP, ACI, ACGO

Oil and gas development could have a major impact on the coastal habitat of the Beaufort Sea, which supports hundreds of thousands of migrating, breeding and moulting birds. ... The objective was to develop a series of maps which identify the key areas for birds along the Beaufort Sea coastline ... to enable quick responses to questions which may arise in the event of an oil spill.... The study area extends along the Beaufort Sea coastline from the Alaska-Yukon border to Baillie Islands off the tip of the Bathurst Peninsula. Emphasis was placed on the nearshore waters of the Beaufort Sea and the land

that is below the storm tide line. However, information on birds using the offshore and the land above the storm tide line, within 2 km of the coast, was also reviewed and summarized. (Au)

Monitoring studies of seabirds at Prince Leopold Island / Gastin, A.J. Prach, R.W. Nettleship, D.N.
[S.l.] : Canadian Wildlife Service, 1985.
22 p. : tables ; 28 cm.
Unpublished report.
Appendices.
OORD

This report presents the results of a field study of seabirds on Prince Leopold Island conducted during the period 17 July to 1 August 1984. The objective was to make observations in the baseline study plots established during 1975-1977 in order to detect population trends. In addition, the study team weighed and measured samples of Thick-billed Murre and Northern Fulmar eggs and kept notes on all birds and mammals seen. Daily counts, timing of breeding, number of eggs present and sites occupied are discussed for Thick-billed Murre and Northern Fulmar. Observations on four other species are also presented. (NOGAP)

INTER-ISLAND MOVEMENTS OF PEARY CARIBOU ACROSS PRINCE OF WALES STRAIT BETWEEN BANKS AND VICTORIA ISLANDS (C.8)

Investigation of the possible inter-island movements of Peary caribou across the sea ice of Prince of Wales Strait between Banks and Victoria Islands / Miller, Frank L.
Edmonton : Canadian Wildlife Service, 1986.
43 p. : tables, maps ; 28 cm.
Appendices.
References.
OORD, AEECW

... Unsystematic searches were carried out by helicopter during March and May-June 1985 to obtain evidence of inter-island movements of caribou across the sea ice of Prince of Wales Strait. The search area included all of Prince of Wales Strait, northern Amundsen Gulf, and the adjacent land areas of eastern Banks and western Victoria Islands, Northwest Territories. No direct evidence was obtained for caribou travelling on the sea ice of Prince of Wales Strait or northern Amundsen Gulf. However ... indirect evidence suggested that such movements may have occurred. (Au)

Preliminary annotated bibliography : Peary caribou and related literature / Ealey, D.M. Nietfeld, M.T. Miller, F.L. [Editor].
Edmonton, Alta. : Canadian Wildlife Service, 1986.
ii, 291 p. ; 28 cm.
OORD, AEECW

[This] bibliography includes abstracts and annotations of most Peary caribou references to 1984. ... In addition to articles and reports on Peary caribou, some relevant references on adjacent range to that of the Peary caribou or dealing with intergrade populations of caribou are included - notably Boothia Peninsula and northern Greenland. ... The bibliography is comprised of three sections: (1) full reference and abstracts, (2) annotations relating to localities, (3) annotations relating to subjects of relevance to Peary caribou biology. ... (Au)

HYDROLOGIC MAPPING DATA BASE (C.10)

Hydrology information series / Western Ecological Services Ltd.
Canada. Environment Canada, Inland Waters Directorate [Sponsor].
Scale 1:250,000
Ottawa : Energy, Mines and Resources Canada [distributor], 1985.
12 map sheets ; 65 cm. x various.
(Printed on both sides of sheet)
Compilation of existing hydrologic data for the Mackenzie River Valley from approximately the Great Bear River northwards to Richards Island.
Copies available from the Canada Map Office, Surveys and Mapping Branch, Energy, Mines and Resources Canada, Ottawa, K1A 0E9.
References.

Twelve map sheets ... make up the Hydrology Information Series, which summarizes existing information on hydrology, fluvial geomorphology and water quality. ... This map compilation is based on a comprehensive review of available reports, plus examination of unpublished information available from agencies involved in hydrologic data collection. The maps must, however, be regarded as a first approximation because current research and survey programs are generating new information. Key sources of information are identified by author and date in the map legends. (Au)

BEAUFORT SEA STATE FORECAST MODEL (C.16)

Evaluation of wave forecasting in the Beaufort Sea, summer 1984 /
MacDonald, K.A.
Downsview, Ont. : Atmospheric Environment Service, 1985.
12, [21] p. : figures ; 28 cm.
(Internal report - Atmospheric Research Directorate, AES, no. MSRB-85-4)
Appendices.
References.
OORD

Wave forecasts for the Beaufort Sea, generated during a four-week period in the summer of 1984 by Esso Resources parametric wind-wave model, have been evaluated. The model is a modified version of the

AES parametric wave model and driven by analyzed and forecast wind fields which are prepared subjectively. Model forecasts were verified against visual wave observations and wave-rider data collected at drill site locations and were also compared with subjectively prepared wave forecasts originating from the AES Beaufort Weather and Ice Office (BWIO). Overall results show that wave height forecasts generated by the model have skill and are of comparable quality to BWIO subjective forecasts. However, studies of a limited number of the more significant wave events (heights $\geq$ 1 m) reveal that in these situations model forecasts are noticeably inferior to the subjective forecasts. These results are compared with an earlier evaluation of 1983 forecasts and differences are discussed. An experiment to compare the effects of objective versus subjective wind inputs on the forecasts was performed by re-running the wave model using CMC objective wind analyses and forecasts. Averaged results show that forecasts derived from objective winds are only slightly inferior; however, on a few occasions the compounding effect of CMC wind errors resulted in wave forecasts significantly inferior to those derived from subjective winds. (Au)

BEAUFORT SEA ATMOSPHERIC DISPERSION CHARACTERISTICS (C.19)

NOGAP Arctic meteorological tower / Fanaki, F. Martin, B. Markes, J.
Downsview, Ont. : Atmospheric Environment Service, [1986].
ii, 54 p. : figures, tables ; 28 cm.
References.
OORD

Six temperature, wind speed and wind direction sensors were installed at various heights on the CBC 100 metre television tower in Inuvik, N.W.T. In addition, a HUMICAP, to measure the relative humidity at 2.5 m and 15 m levels, and two Eppley pyranometers, to measure Albedo at 1 m height, were installed. The purpose of this project is to gather detailed information to form a data base of atmospheric parameters. The data were averaged every 10 minutes and stored on tape at the AS6, AES computer ready for use upon command. This report describes in detail the site, tower and the installation of the sensors. The characteristics of the sensors are also examined. A sample of the collected data is presented in this report. (Au)

NOGAP project C.19 winter field study: February 1985: Inuvik, N.W.T. / Fanaki, F. Martin, B. Markes, J.
Downview, Ont. : Atmospheric Environment Service, 1986.
2 v. (ii, 62; 293 p.) : figures, tables ; 28 cm.
v.1. report ; v.2. appendices.
References.
OORD

This field study of February 1985 provides data for an initial attempt to determine the pollution potential of the NOGAP hydrocarbon study area for winter seasons. A variety of measurements were made

during the study, including vertical soundings of the atmosphere for wind and temperature profiles, plume rise and dispersion from a power plant in Inuvik, measurements of particulate concentration and measurements of mixing heights. The study was successful in verifying the Inuvik tower data and in identifying the features of the industrial plume and its dispersion characteristics. The predictive capability of Briggs' plume rise formula was assessed and comparison of the horizontal dispersion coefficient with the Pasquill-Gifford model was made. Observation of the ventilation coefficient indicated high pollution potential at least during the study period. Concentration and size distribution of certain particulates are the same characteristics as those found in unpolluted Arctic air. (Au)

MULTI-SERVICE PROJECTS (C.21)

Beaufort environmental monitoring project : 1984-1985 : final report / ESL Environmental Sciences Limited. LGL Limited. ESSA Limited. Arctic Laboratories Limited. Arctic Sciences Limited. Canada. Indian and Northern Affairs Canada [Sponsor]. Canada. Environment Canada [Sponsor].
[British Columbia ?] : [s.n.], 1985.
xxi, 162 p. : figures, tables ; 28 cm.
Appendices.
OORD, NWYIN

The Beaufort Environmental Monitoring Project (BEMP) was initiated in 1983 to provide the technical basis for the design, operation and evaluation of a comprehensive and defensible environmental research and monitoring program to accompany phased hydrocarbon development in the Beaufort Sea. This document is the report of activities during 1984/85. The primary activities were a pre-workshop review of studies initiated since December 1983; preparation of project overviews describing the purpose of these studies and their relationship to BEMP hypotheses; the workshop itself and preparation of this report. The report contains a summary of the conclusions and recommendations from the workshop; a review of new information relevant to the various linkages that comprise the BEMP impact hypotheses, and the rationale for specific research or monitoring recommendations. (NOGAP)

ENERGY, MINES AND RESOURCES CANADA

COASTAL ZONE GEOTECHNICS, BEAUFORT SEA (D.1)

1984 offshore geotechnical site investigation : Herschel Sill sites, Yukon Territory / EBA Engineering Consultants Ltd. Canada. Indian and Northern Affairs Canada [Sponsor]. Geological Survey of Canada [Sponsor].
Calgary : EBA Engineering Consultants Ltd., 1984.
20, [15] p. : figures, tables ; 28 cm.
Appendices.
OORD, NWYIN

This report presents a summary of the geotechnical data collected at the Herschel Sill. ... The investigation was performed to determine the distribution, thickness and quality of potential sand and gravel deposits on the Herschel Sill, and the general stratigraphy and geotechnical properties of the area. Field testing was carried out from the Arctic Kiggiak on October 11, 1984. (Au)

Coastal erosion and sedimentation in the Canadian Beaufort Sea / Forbes, D.L. Frobel, D.
(Current Research - Geological Survey of Canada, part B. paper - Geological Survey of Canada, 85-1B, p. 69-80, figures, table)
References.

Sediments are supplied to the Beaufort Sea coast primarily from river and cliff sources. Mackenzie Delta is the major depositional feature, but has a predominantly erosional outer shoreline, despite high sediment supply and locally wide mudflats revealing sediment sink locations. Other features include cliffs, breached lake embayments, flooded tundra flats, lagoons, estuaries, deltas, beaches and barriers. Coastal surveys during 1984 included extensive oblique aerial video coverage, 22 beach profiles at 8 sites, sediment sampling, and 98 measurements of cliff recession at 11 sites. Beach deposits range from cliff-top gravels (up to 6.0 m above mean sea level) and gravel barriers (up to 2.2 m) to wide sandy spits and barrier islands with crest elevations as low as 0.4 m. Driftwood deposits occur as high as 6.0 m. Observed rates of cliff recession show high spatial and temporal variability, with 5-year means as high as 13 m/a. (Au)

Beaufort Sea coastal sediment study, numerical estimation of sediment transport and nearshore profile adjustment at coastal sites in the Canadian Beaufort Sea : part I , text; part II , data / Keith Philpott Consulting Limited. Pinchin, B.M. Nairn, R.B. Philpott, K.L. Canada. Indian and Northern Affairs Canada [Sponsor]. Canada. Energy, Mines and Resources Canada [Sponsor].
Thornhill, Ontario : Keith Philpott Consulting Limited, 1985.
2 parts (various pagings) : figures, tables ; 28 cm.
(Geological Survey of Canada open file report, no. 1259)
Copies available from Maritime Resource Management Services, P.O. Box 310, Amherst, N.S., B4H 3Z5, $195.80
Appendices.
References.
CORD, NWYIN, NSDB, OOG, ACSP, BVAG

This report responds to a need for better data on coastal processes in the Canadian Beaufort Sea for the siting and design of new shore-base facilities. Numerical estimates of alongshore sediment transport and nearshore profile adjustments are developed for the following sites: Atkinson Point, N.W.T.; Kay Point, Yukon; King Point, Yukon; North Head, N.W.T.; Stokes Point, Yukon; and Tuktoyaktuk, N.W.T. The influence of storm surges on coastal processes is also investigated. The evolution on the shoreline at

King Point under existing conditions and with a total littoral barrier structure has been modelled. Offshore and nearshore wave climates have been computed for 7 sites, the 6 mentioned plus Pauline Cove on Herschel Island. They have been based on new fourteen year parametric hindcasts. The inshore wave climates were computed using two-dimensional spectral transfer techniques with allowance for shallow water equilibrium spectral forms. (Au)

Canadian Beaufort Sea physical shore-zone analysis : final report / Dobrocky Seatech Ltd. Harper, J.R. Reimer, P.D. Collins, A.D. Canada. Indian and Northern Affairs Canada [Sponsor].
Sidney, B.C. : Dobrocky Seatech Ltd., 1985.
viii, 105 [149] p. : figures, tables, maps ; 28 cm.
Appendices.
References.
OORD, NWYIN

An analysis of the Canadian Beaufort Sea coastal zone (Alaskan/Yukon border to Baillie Islands) was conducted to provide regional summaries of (a) coastal morphology, (b) coastal stability and (c) coastal processes. ... A total of 2,077 km of coastline were examined using aerial photographs, low altitude oblique video imagery and previously existing field studies. ... Six coastal types were defined ... and were used to characterize the coastal zone. The results indicate a predominance of erosional landform types ... with relatively few (<20%) widely dispersed accretional landforms. Over 1,000 comparisons of coastal stability were made using 1950's and 1970's air photos. The results indicate that the Beaufort Sea coast is undergoing wide scale regional retreat. ... The presence of significant quantities of terrestrial ice in the coastal sediments is one of the primary causes of the wide scale retreat. It is also hypothesized that the Canadian Beaufort Sea is undergoing a relative sea level rise, which is contributing to the rapid retreat. ... This is manifest in the dominance of erosional landforms. An important exception occurs on the western Yukon coast where long linear barrier islands appear stable. It is speculated that onshore movement of material due to ice push is the primary process responsible for supplying material to these barriers. (Au)

TRANSPORT CANADA

ASSESSMENT OF ARCTIC SEARCH AND RESCUE SCENARIOS (E.2)

Arctic SAR scenarios and response evaluation / Arctec Canada Limited Canada. Transport Canada, Canadian Coast Guard Northern [Sponsor].
Calgary : Arctec Canada Limited, 1985.
vi, 75, [65] p. : figures, tables ; 28 cm.
Appendices.
References.
OOT, OORD

This report documents the results of work undertaken to define present and future Arctic marine search and rescue (SAR) scenarios of concern and to assess the effectiveness of existing equipment and systems to respond to these incidents. A total of sixteen SAR candidate scenarios were developed which cover the full range of probabilities of occurrence and incident ramifications. Of these, five were selected for detailed analysis and evaluation. Present SAR capabilities were established by contacting government and industry groups which contribute to the SAR response and which are SAR-tasked and equipped. Available SAR equipment was identified and listed by region and by type, from information provided by the above group along with local operators. The probable SAR response was defined and assessed for the five scenarios which were to be evaluated in detail. Potential improvements to the present response are detailed in terms of possible actions (i.e. actions requiring relatively low expenditures and effort) and ideal actions (i.e. those requiring massive expenditures and intensive efforts). (Au)

STUDIES TO ASSESS AND DEVELOP ARCTIC NAVIGATION SYSTEMS (E.5)

Spring ice breaking operations of the ship M.V. ARCTIC and concurrent Inuit hunting in Admiralty Inlet, Baffin Island: volume I, report ; / volume II, appendix c / FMS Engineers Inc. Strandberg, A.G. Embacher, U. Sagriff, L. Canarctic Shipping Ltd. [Sponsor]. Canada. Indian and Northern Affairs Canada [Sponsor].
Calgary : FMS Engineers Inc., 1984.
2 v. (x, 57, [13] p. ; 5 p.) : figures, tables, 35 photos (col.) ; 28 cm.
Appendices.
References.
OORD, NWYIN

In July 1978, Canarctic Shipping Company Limited initiated the use of the MV ARCTIC to transport lead-zinc concentrate from the Nanisivik Mine on Strathcona Sound, Northern Baffin Island. The first inbound voyage of the M.V. ARCTIC through the early summer ice conditions of Lancaster Sound and Admiralty Inlet coincides and can interfere with the narwhal hunt carried out by the Inuit of the Arctic Bay area. During the summer of 1984, a study of the interaction of the ship and the hunting operation was conducted, with the following objectives: 1) to study remote sensing imagery to determine the pre-1978 natural breakup pattern and, for 1978 to 1984, the breakup pattern as influenced by the passage of the MV ARCTIC; 2) to carry out an early summer field study program documenting the interaction of the two groups, measuring results of the ship's ice breaking passage and evaluating any subsequent effect on the ice breakup process; 3) to evaluate recommendations proposed at meetings of those concerned to minimize the shipping route's impact on early summer hunting. This report represents the field work and the historical search done to evaluate the interaction between shipping and hunting traffic while the inlet is ice covered. Volume II contains a collection of photographs with explanatory notes about the 1984 field season program. (NOGAP)

Arctic tanker loading and mooring study final report / Canadian Marine Drilling Ltd. Canada. Transport Canada, Coast Guard Northern [Sponsor].
Calgary : Canadian Marine Drilling Ltd., 1986.
298 [59] p. : figures, tables ; 28 cm.
(Transport Canada report, no. TP 7371 E)
Appendices.
References.
OOT, OORD

The concept of loading Arctic tankers from exposed terminals in the Arctic offshore has been the subject of earlier studies. The experience gained by Canmar in the operation of Arctic Mobile Caissons and in the studies performed during 1983 to 1985 clearly indicated that an approach by vessels to an exposed terminal production facility during the winter is feasible. This study investigates the mooring and loading concepts and techniques, the associated equipment and their costs, as well as the related downtime for year-round arctic operation at exposed terminals. From the results, extrapolations can be made for specific production scenarios. (Au)

Lancaster Sound winter ice regime study / Intera Technologies Ltd. Canarctic Shipping Company Ltd. [Sponsor]. Canada. Transport Canada [Sponsor].
Calgary, Alta. : Intera Technologies Ltd., 1985.
viii, 102 p. : figures, tables ; 28 cm.
(Transport Canada report, no. TP 6696)
References.
OOT, OORD

STAR-1 Synthetic Aperture Radar (SAR) and Side-looking Airborne Radar (SLAR) imagery were analysed and the data mapped. Results indicated that from early November onward ice moved easterly out of Lancaster Sound into Baffin Bay. The percentage of old ice in the Sound diminished during the winter and by mid-January only isolated areas indicated old ice concentrations. Glacial ice fragments were primarily interpreted in the landfast ice in Lancaster Sound, with very few in the moving pack ice. The movement of old ice south from Nares Strait had stopped by mid-December; only random floes of old ice, broken free of the landfast ice, travelled south in the generally young ice pack between early January and mid-March. Neither glacial fragments nor old ice was seen to enter Lancaster Sound between mid-December and mid-March. The outflow of young ice from Lancaster Sound merged with the southerly movement of young ice from Kane Basin and northern Baffin Bay at the Lancaster Sound-Baffin Bay interface. Further work is needed to understand both the processes in Lancaster Sound and Baffin-Kane-Nares with regard to small floe distribution and the inflow process of old ice and glacial fragments from Baffin Bay into Lancaster Sound when the winter ice regime changes to summer/fall conditions. (NOGAP)

PROGRAM TO UPDATE ARCTIC SHIP CONSTRUCTION REGULATIONS (E.9)

Special requirements of shipboard firefighting systems used in cold temperatures / Melville Shipping Ltd. Canada. Transport Canada, Coast Guard Northern [Sponsor].
Calgary, Alta. : Melville Shipping Ltd., 1985.
vii, 198 p. in various pagings : figures, tables ; 28 cm.
(Transport Canada report, no. TP 6225 E)
Appendices.
References.
OOT, OORD

This report presents the results of a study to determine the effectiveness and suitability of shipboard fire extinguishing agents, systems and appliances, for use in very cold temperatures. The report documents the environmental conditions which affect firefighting capability and identifies the firefighting problems which can arise. Procedures adopted by land based fire services to overcome cold temperature firefighting problems are included, as are the protective measures adopted by shipowners and shipbuilders. The firefighting and equipment standards and regulations for ships, offshore structures and helicopter decks of a number of national administrations are examined, and their cold temperature reference compared. A guideline specification for shipboard firefighting systems and equipment for cold temperature operations is presented, as are training requirements. Based upon study findings, recommendations are made for regulatory changes and proposals are put forward for further research required to resolve outstanding problems. (Au)

M.V. ARCTIC midbody damage analysis / Canadian Marine Drilling Ltd. Canada. Transport Canada, Coast Guard Northern [Sponsor].
Calgary : Canadian Marine Drilling Ltd., 1985.
(Transport Canada report, no. TP 6224E)
Report held as confidential by OOT; project manager must give permission to lend.
OOT

GOVERNMENT OF YUKON

Executive Council Office

DATA DEVELOPMENT IN RELATION TO BEAUFORT HYDROCARBON DEVELOPMENT REQUIREMENTS (G.3)

June 1, 1985 population estimates of Yukon / Yukon Territory. Bureau of Statistics.
Whitehorse, Yukon : Yukon Territory. Bureau of Statistics, 1985.
19 p. : tables; 28 cm.
Updates are to appear quarterly in the Yukon Statistical Review.
YWLS, YWA, OORD

The population estimates presented in this report represent demographic information derived from the new Yukon Health Care (YHC) insurance plan administrative system. Estimates are provided by community and age, age and sex, community, Whitehorse area sub-community and age, and Whitehorse area sub-community and sex. Evaluations of the YHC estimates against the 1981 census and against figures derived from comparable administrative systems, specifically the Family Allowance and Old Age Security programs, are included. (NOGAP)

Yukon data book 84-5: a complete information guide to Yukon and its its communities / Yukon Territory. Dept. of Economic Development and Tourism.
Whitehorse, Yukon : Outcrop Yukon Ltd., 1984.
132 p. : maps, tables ; 28 cm.
References.
ISBN 0-919315-11-9.
YWLS, YWA, OORD

This publication describes Yukon Territory in terms of its geography, climate, plant and animal life, history, demography, government, economy and services. Similar, more detailed, profiles are provided for 18 individual Yukon communities. (NOGAP)

Selected characteristics from the 1981 census of Canada : volume 1: Whitehorse and other major Yukon communities / Yukon Territory. Bureau of Statistics.
Whitehorse, Yukon : Yukon Territory. Bureau of Statistics, 1985.
41 p. : figures, tables ; 21 x 28 cm.
YWLS, YWA, OORD

The contents of this report are based on the statistics provided by the 1981 Census of Canada for Yukon. Major characteristics have been selected from the 1981 Census in an attempt to provide an easily referenced statistical guide for Yukon. Tables and charts present community-level data for 12 demographic variables and 5 employment variables. (NOGAP)

Selected characteristics from the 1981 census of Canada : volume 2: Yukon and Canada - a comparative analysis / Yukon Territory. Bureau of Statistics.
Whitehorse, Yukon : Yukon Territory. Bureau of Statistics, 1985.
44 p. : figures, tables ; 21 x 28 cm.
YWLS, YWA, OORD

The content of this report is based wholly on the 1981 Census of Canada for Yukon and, in particular, the Statistics Canada publication "Statistical Information on the Federal Electoral District Yukon" (May, 1984). Major characteristics have been selected from the 1981 Census in an attempt to provide an easily referenced comparative analysis between Canada and Yukon. Comparisons are provided in textual graphic and/or tabular form for 12 demographic variables and 5 employment variables. (NOGAP)

Family allowance summary report : 1980 to 1984 / Yukon Territory. Bureau of Statistics.
Whitehorse, Yukon : Yukon Territory. Bureau of Statistics, 1985.
34 p. : figures, tables ; 28 cm.
Appendices.
Yukon Bureau of Statistics plans to update annually.
YWLS, YWA, OORD

Data presented are derived from Statistics Canada - CANSIM F-55 Postal Code System. Data is geocoded by postal codes of family allowance recipients (those less than 18 years of age) and subsequently grouped into community and sub-community areas. The report presents a variety of graphic and tabular information relating to the geographical and age distribution of children in the Yukon. (NOGAP)

Family allowance summary report : 1980 to 1985 / Yukon Territory. Bureau of Statistics.
Whitehorse, Yukon : Yukon Territory. Bureau of Statistics, 1986.
37 p. : figures, tables ; 28 cm.
Appendices.
ISBN 1-55018-004-5.
YWLS, YWA, OORD

This report is similar to the one for 1980 to 1984. (NOGAP)

Revenue Canada summary report : 1972 to 1982 / Yukon Territory. Bureau of Statistics.
Whitehorse, Yukon : Yukon Territory. Bureau of Statistics, 1985.
62 p. : figures, tables; 21 x 28 cm.
Appendix.
Yukon Bureau of Statistics plans to update annually.
YWLS, YWA, OORD

Data presented were derived from the most current available statistics released by Revenue Canada. The report is subdivided into three main parts. Part A analyzes data from the 1982 tax year and includes a comparison of Canada and Yukon. Part B provides a time series analysis (1972-1982) for Yukon as a whole, as well as for selected communities. Part C analyzes changes in real income between 1972 and 1982 in Yukon and in selected Yukon communities. (NOGAP)

Revenue Canada summary report : 1973 to 1983 / Yukon Territory. Bureau of Statistics.
Whitehorse, Yukon. : Yukon Territory. Bureau of Statistics, 1986.
63 p. : figures, tables ; 21 x 28 cm.
Appendix.
YWLS, YWA, OORD

This report is similar to the one for 1972 to 1982, but is based on data from the 1983 tax year. (NOGAP)

Department of Economic Development: Mines and Small Business

SOCIO-ECONOMIC IMPACT ASSESSMENT OF INDUSTRIAL DEVELOPMENT ON YUKON'S NORTH COAST (G.6)

Socio-economic impact assessment of industrial development on Yukon's north coast / The DPA Group Inc. Yukon Territory. Dept. of Economic Development [Sponsor].
Calgary, Alta. : The DPA Group Inc., 1985.
iii, 119, [22] p. : tables ; 28 cm.
Appendices.
References.
YWLS, YWA, OORD

This study assessed the relative positive and negative effects of two potential port development scenarios at King Point on the North Coast of Yukon: a port and rock quarry facility (Kiewit Arctic Project) and a multi-user port development (Monenco-Interlog). Multiple account analysis was used to assess the impacts. Three separate accounts were considered: Yukon economic impacts, government financial impacts and social impacts. Overall, both projects would generate substantial economic effects during the construction phase but much reduced effects during the operations phase. Both projects would have moderate positive effects on Yukon's business community in terms of supplying goods and services during both construction and operations. To the extent that Yukon's economy could be expanded more into the oil and gas sector as well as the marine transportation sector, the multi-user port would have the effect of diversifying Yukon's economy in the long-term. The Kiewit project would primarily utilize existing mining capabilities in Yukon and thus generate little diversification. The projects would generate a small revenue to the Yukon government and have both positive and negative effects on the social environment. To enhance economic effects, it is recommended that the projects be encouraged to merge and be staged in development, provided their economic viability is pre-established. The Yukon government should place priority on establishing a strong transportation link to the Beaufort Sea, and on encouraging the oil and gas industry in further extending business and employment opportunities to the Yukon market. (NOGAP)

Yukon SEIAN socio-economic impact model / Alaska Economics, Inc. Yukon Territory. Dept. of Mines and Small Business [Sponsor].
Juneau, Alaska : Alaska Economics, Inc., 1985.
43 p. ; 28 cm.
References.
YWLS, YWA, OORD

The NEWYEM econometric model of the Yukon economy produces conditional forecasts of employment, income and population change in Yukon. NEWYEM's ability to make accurate conditional forecasts is severly compromised whenever the events it is asked to depict constitute a significant break with the past. One solution to this problem is to prepare estimates of the initial impacts of significant events in such a way that these estimates can be used to adjust the simulation properties of the econometric model. The Yukon Socio-Economic Impact Analysis model (SEIAN) has been designed to "front-end" the Yukon econometric model (NEWYEM) in this way. Information from Canadian and Alaskan sources is combined in a linear activity analysis framework to produce a vector of inputs to NEWYEM. These inputs include major project-related employment by industry for 8 basic industries, 3 Yukon support industries, and for net migration to Yukon. The SEIAN model also produces measures of major project employment-related impacts. (NOGAP)

IDENTIFICATION OF YUKON BUSINESS OPPORTUNITIES FROM BEAUFORT HYDROCARBON DEVELOPMENT ACTIVITIES (G.7)

Yukon business opportunity identification study: final report / Novacorp Consulting Inc. Yukon Territories. Dept. of Economic Development [Sponsor].
Vancouver : Novacorp Consulting Inc., 1986.
231 p. in various pagings : figures, tables ; 28 cm.
Appendices.
YWLS, YWA, OORD

The objective of this study was to identify opportunities for Yukon-based companies to sell goods and services to the oil and gas industry in northern Canada and Alaska, and to recommend action required to achieve these sales. Research focussed on the Yukon business sector and on the oil and gas industry, but investigations extended to government, native groups and others who could influence or play a role in economic development. The report presents the research findings and identifies a number of areas in which Yukon businesses could obtain sales and contracts from the oil industry. Recommendations to assist in taking advantage of these opportunities are made for Yukon's business sector, the Yukon Territorial Government, the Whitehorse and Yukon Chambers of Mines, and the oil companies. (NOGAP)

Yukon business opportunity identification study: business sector reports / Novacorp Consulting Inc. Yukon Territory. Dept. of Economic Development [Sponsor].
Vancouver : Novacorp Consulting Inc., 1986.
183 p. in various pagings ; 28 cm.
YWLS, YWA, OORD

The report comprises information booklets for each of fifteen business sectors that were researched to identify sales and services opportunities for Yukon businesses in the oil and gas industry in northern Canada and Alaska. Each booklet presents a summary of the author's findings respecting a specific sector, information and conclusions relevant to that sector concerning oil and gas development, opportunities that could be pursued, marketing initiatives that should be considered and important contacts within the industry. (NOGAP)

Department of Renewable Resources

HERSCHEL ISLAND TERRITORIAL PARK PLANNING (G.10)

Fisheries survey of Herschel Island, Yukon Territory from 9 July to 12 August, 1985 / North/South Consultants Inc., Baker, R.F. Yukon Territory. Dept. of Renewable Resources [Sponsor].
Winnipeg, Manitoba : North/South Consultants Inc., 1985.
vi, 44 p. ; figures, tables ; 28 cm.
References.
YWLS, YWA, OORD

A fisheries survey of Herschel Island, Yukon Territory was conducted between 9 July and 12 August, 1985. This study was undertaken to obtain information on the spatial midsummer distribution of nearshore anadromous and marine fishes of Herschel Island so as to assess the potential impact of park development on the species. Ten species were captured, five of which were anadromous. The anadromous fishes represented 84% of the total catch which consisted primarily of Arctic cisco (Coregonus autumnalis). Highest CPUE values and greatest species diversity occurred in Workboat Passage followed by Pauline Cove and was low and variable in Thetis Bay. CPUE of Arctic cisco increased through July reaching a maximum abundance at the end of the study period. Sheltered bays and coves have been identified as areas of importance for both juvenile and adult fish. Ichthyoplankton, predominantly Arctic cod (Boreogadus saida), were captured in the nearshore environment from all areas. The effects of park development and related activities on the fish community of Herschel Island are discussed. (Au)

ARCTIC BEAR AWARENESS AND HAZARD REDUCTION (G.11)

Arctic bears, NN [kit]. / Environmental and Social Systems Analysts Ltd. Yukon Territory. Dept. of Renewable Resources [Sponsor].
[British Columbia] : Environmental and Social Systems Analysts Ltd., [1985]
Video recording (12 min)
95 slides
1 sound tape
Program guide, 19 p.
YWLS

Due to slow reproduction and the effects of the harsh northern climate, just enough bears survive natural hazards and a carefully controlled hunting mortality to maintain their population. This video is designed to caution against another threat to bears--access to human food. The reproductive patterns of bears are discussed as are their general behaviour patterns, particularly those relating to a search for food. Making food available to bears, either through careless disposal of garbage or through deliberate feeding, is discouraged. (NOGAP)

ECONOMIC HARVEST POTENTIAL AND MANAGEMENT OF ARCTIC FOX IN YUKON (G.15)

Den distribution, harvest and management of arctic fox in northern Yukon territory / Smits, C.M.M. Jessup, R.H.
Whitehorse, Yukon. : Yukon Territory. Dept. of Renewable Resources, 1985.
44 p. : figures, tables, 1 map fold. ; 28 cm.
References.
Appendices.
YWLS, YWA, OORD

The distribution and occupancy of arctic fox (Alopex lagopus) dens is discussed from data collected on aerial surveys of the Yukon Territory's arctic coastal plain and Herschel Island during the summers of 1984 and 1985. ... A total of 55 fox dens were identified in the study area, 36 on the mainland and 19 on Herschel Island. ... Three of four natal dens located on Herschel Island were occupied by arctic fox and one by red fox (Vulpes vulpes) in both 1984 and 1985. No natal dens were found on the mainland in 1984; in 1985 two natal dens on the mainland yielded a red fox family and an arctic fox family. Red fox densities as evidenced from den occupancy rates have declined since a survey in 1972. Proportions of natal dens were low in both years and suggestive of low population levels of arctic fox in the study area. ... Dens were randomly dispersed on Herschel Island, the mainland, and all areas combined. Spacing of natal dens on Herschel Island departed significantly ($p<0.01$) from random in both years and suggests territoriality among breeding foxes. ... [Information on harvest of arctic fox from the area is also reported.] Based on the low density of fox dens in the area, the harvest potential for foxes is believed to be low. Further monitoring of breeding arctic fox performance and harvest is proposed. (Au)

GOVERNMENT OF THE NORTHWEST TERRITORIES

Energy, Mines and Resources Secretariat

SOCIO-ECONOMIC MONITORING SYSTEM - NORTHERN HYDROCARBON DEVELOPMENT (H.8)

Beaufort Sea cumulative monitoring: possible indicators for socio-economic issues / Rolf, C.A. Northwest Territories. Energy, Mines and Resources Secretariat [Sponsor].
[S.l. : s.n.], 1985.
105 p. : table ; 28 cm.
OORD

This study identified sources, kinds and limitations of available data which might serve as qualitative indicators for ten issues arising from the socio-economic impacts of hydrocarbon development in the Beaufort region. These issues include: demography, urbanization and industrialization, municipal issues, wage employment, business development, prices and incomes, renewable resource harvesting, community control, education and the mass media. Attention was focussed on data already collected by various government departments. Data quality limitations arise from three factors: the data were not collected specifically for monitoring purposes; some issues are less readily quantifiable, and some indicators are less effective, or inconsistent, as measures of the element that is to be measured. Study results are presented as a catalogue of 79 indicators, organized by issue. (NOGAP)

INVESTIGATION OF BOOM/BUST CYCLES (H.9)

Growth management strategies: recommendations to assist in the management of boom/bust in the Beaufort / Praxis, Inc. Roberts, R. Fresh Start Social Consultants Company Limited. Kupfer, G. Northwest Territories. Energy, Mines and Resources Secretariat [Sponsor].
[Calgary] : Praxis, Inc., Fresh Start Social Consultants Company Limited, 1985.
xx, 147 p. : figures, tables ; 28 cm.
Appendices.
OORD

This is one of two documents resulting from a study which investigated boom/bust cycles, assessed their potential effects and developed strategies to control in-migration and reduce the potential economic and social disruption associated with these cycles. This report identifies the major issues faced by territorial policy and program personnel, recommends action by the NWT Executive Council and the public service, and identifies the implications of these recommendations and implementation responsibilities. (NOGAP)

Dictionary of growth management strategies / Praxis, Inc. Roberts, R. McNeil, L. Fresh Start Social Consultants Company Limited. Kupfer, G. Northwest Territories. Energy, Mines and Resources Secretariat [Sponsor].
[Calgary] : Praxis, Inc., Fresh Start Social Consultants Company Limited, 1985.
xx, 345 p. in various pagings : figures, tables ; 28 cm.
Appendices.
References.
OORD

This is one of two documents resulting from a study which investigated boom/bust cycles, assessed their potential effects and developed strategies to control in-migration and reduce the potential economic and social disruption associated with these cycles. This report identifies a wide range of strategies used in the NWT, other areas of Canada and internationally. Specific topics include: local employment and business development, community economic diversification, community/regional adjustment, community services, accommodations, planning and infrastructure, finance/ taxation, information exchange, monitoring and compensation. (NOGAP)

Department of Local Government

FUNDS FOR TUKTOYAKTUK AND INUVIK COUNCILS TO IDENTIFY IMPACTS AND PLAN FOR DEVELOPMENT (H.2)

Town of Inuvik expansion plan / UMA Engineering Ltd. Associated Engineering Alberta Ltd. Town of Inuvik, NWT [Sponsor].
Edmonton : UMA Engineering Ltd., Associated Engineering Alberta Ltd., 1985.
iii, 33 p. in various pagings : figures, tables ; 28 cm.
OORD

This report reviews and refines the physical plan for the Town of Inuvik to provide for a design population of 7,000 and to identify major infrastructure requirements based on population thresholds. It provides a basis for the rational and economic development of land, basic information for the design and construction phases, a basis for the identification of funding sources, and information and analysis to support decision-making. (NOGAP)

Department of Renewable Resources

DETERRENT STUDIES FOR HYDROCARBON DEVELOPMENT IMPACT AREA (H.13)

Safety in bear country : a reference manual / Bromley, M.
Yellowknife, NWT : Dept. of Renewable Resources, 1985.
1 v. (various pagings) : figures, tables ; 28 cm.
Appendices.
References.
OORD, NWYRR, NWYGI

The significant increase in the number of people living and working in areas of the NWT with bear populations in the last few decades has resulted in a corresponding increase in the number of human-bear conflicts. In an effort to increase human safety and reduce the number of nuisance bear kills, the Department of Renewable Resources (GNWT) initiated a bear detection and deterrent research and training program in 1981. The research component of the program, reflected in this manual, has involved the development and testing of detection systems and deterrent equipment. The manual also contains information on the nature of bears, ways to reduce the chances of encountering bears, design and maintenance of camps in bear country, and what to do if a bear is encountered. (NOGAP)

Department of Social Services

BEAUFORT DELTA SOCIAL IMPACT BASELINE DATA STUDY (H.3)

Social monitoring of cumulative impacts in the Beaufort/Delta area: a comprehensive critique of available indicators and an introduction to community issues / Northwest Territories. Dept. of Social Services, NOGAP Database Study.
Yellowknife, NWT : Dept. of Social Services, 1985.
254 p. : 28 cm.
Appendices.
References.
OORD, NWYGI

This report represents a first step in the development of a data base from which social change arising from hydrocarbon development in the Beaufort/Delta area can be identified and planned for. Its objectives is to determine what data is available and to evaluate its suitability. Sixty-three community issues and 112 suitable social indicators are identified and critiqued. Data sources and explanatory notes regarding the data are presented for each indicator. (NOGAP)

NOGAP database system: system study and evaluation: phase 1 / Northwest Territories. Dept. of Social Services.
Yellowknife, NWT : Northwest Territories. Dept of Social Services, 1986.
64 p. : figures ; 28 cm.
Appendices.
OORD, NWYGI, NWYOS

The NOGAP database system is intended to provide information to identify the changing needs for delivery of social services in Beaufort/Delta communities arising from the impact of oil and gas development, and to assist in determining the most effective method of delivering statutory and preventive services to each community. The system will be designed to build on and strengthen community

resources for identifying and dealing with issues. This report describes ten major social issues and addresses associated indicators in terms of definition, supplier, format, size, values and frequency. A systems approach for managing the data and the advantages/disadvantages of manual and automated systems are discussed. Costing for the recommended automation alternative is also provided. (NOGAP)

Aklavik community development workshop: progress report February 1986 / Stanley Associates Engineering Ltd. Northwest Territories. Dept. of Social Services [Sponsor].
Yellowknife, NWT : Stanley Associates Engineering Ltd., 1986.
ii, 19 p. : tables ; 28 cm.
(Progress report)
Appendices.
NWYGI, NWYOS

Community input for the development of a community-based Community Development Handbook for use in Beaufort/Mackenzie Delta communities by community development officers, social workers, municipal governments and the general public was sought through a series of workshops. This report presents the results of an open house and workshop in Aklavik at which residents identified "what is good" and "what is not so good" about their community. (NOGAP)

Coppermine community development workshop: progress report, February 1986 /Stanley Associates Engineering Ltd. Northwest Territories. Dept. of Social Services [Sponsor].
Yellowknife, NWT : Stanley Associates Engineering Ltd., 1986.
ii, 20 p. : figures ; 28 cm.
(Progress report)
Appendix.
NWYGI, NWYOS

Community input for the development of a community-based Community Development Handbook for use in Beaufort/Mackenzie Delta communities was sought through a series of workshops. This report presents the results of an open house and workshop in Coppermine at which residents identified and discussed "what is good", "what is not so good" and "what ought to be" in their community. (NOGAP)

Tuktoyaktuk community development workshop: progress report, February 1986 /Stanley Associates Engineering Ltd. Northwest Territories. Dept. of Social Services [Sponsor].
Yellowknife, NWT : Stanley Associates Engineering Ltd., 1986.
ii, 20 p. : figures ; 28 cm.
(Progress report)
Appendix.
NWYGI, NWYOS

Community input for the development of a community-based Community Development Handbook for use in Beaufort/Mackenzie Delta communities was sought through a series of workshops. This report presents the results of an open house and workshop in Tuktoyaktuk at which residents identified and discussed eight community development issues relevant to their community. (NOGAP)

Effects of rotational wage employment on families and workers in the Beaufort-Mackenzie Delta area / NOGAP Research Team. Northwest Territories. Dept of Social Services [Sponsor].
Yellowknife, NWT : Northwest Territories. Dept. of Social Services, 1986.
66 p. : tables ; 28 cm.
Appendices.
CORD, NWYGI

This study was to determine and assess the effects of rotational wage employment on families and workers in the Beaufort area and to devise appropriate solutions. The report contains an annotated bibliography of documents/sources about rotation; indicators that may reflect the effects of rotational oil and gas industry employment on income support programs, crime and public justice, education, alcohol and drugs, young offenders, mental health, family life, and fur and game harvest returns; and a commentary on the availability of and problems associated with oil and gas employment data. (NOGAP)

DAY CARE STUDY (H.10)

Caring for children: child care needs associated with hydrocarbon development in the Beaufort region / Erickson Associates.
Erickson, D. Veit, S. Northwest Territories. Dept. of Social Services [Sponsor].
Victoria, B.C. : Erickson Associates, 1985.
88 p. : figures, tables ; 28 cm.
Appendices.
References.
CORD, NWYIN, NWYOS

This study focussed on the child care needs of three communities in the Beaufort region: Aklavik, Inuvik and Tuktoyaktuk. An assessment was made of current child care arrangements and resources used by people working in jobs associated with the oil and gas industry and of potential solutions to child care problems. It was concluded that: 1) rotation employment is not the most critical factor in determining whether or not child care arrangements are problematic; 2) the presence of onshore facilities adjacent to Tuktoyaktuk presents many employment opportunities but is also associated with significant child care problems; 3) the Government of the NWT has not assumed an adequate support role for families who require day

care services; 4) industry has not been sufficiently active in examining alternative work arrangements for Tuktoyaktuk residents to help reduce work/family conflicts. The report recommended that the Government of the NWT should develop and adopt a day care strategy and that major intervention should be undertaken in Tuktoyaktuk. (NOGAP)

RESEARCH TO DEVELOP A TRAINING PROGRAM FOR SOCIAL SERVICES (E.11)

Staff training study : department of Social Services / A.R.A. Consultants. Northwest Territories. Dept. of Social Services [Sponsor].
Yellowknife, NWT : A.R.A. Consultants, 1985.
138 p. in various pagings : 28 cm.
Appendices.
References.
OORD, NWYGI

Because of the expanding role and responsibilities being assumed by community social services workers in the Beaufort Sea region, the Department of Social Services commissioned this study to identify and assess the current and anticipated training requirements of its field staff. It was found that workers are faced with increasing demands for the more interactive and counselling elements of social work. Although the nature of training currently available was considered generally acceptable, the report contains recommendations for greater effectiveness through more systematic planning, budgeting and coordinating of training activities and for specialized training in the areas of community development, family counselling, program development, and assertiveness and self-confidence building. Designs for workshops on family counselling and community development are included as appendices. (NOGAP)

Volume

2

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

Northern Oil and Gas Action Program

NOGAP
BIBLIOGRAPHY

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NOGAP SECRETARIAT
CONSTITUTIONAL DEVELOPMENT AND STRATEGIC PLANNING BRANCH
INDIAN AND NORTHERN AFFAIRS CANADA

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INTRODUCTION

Purpose

This bibliography contains citations and abstracts for published and unpublished reports completed under the Northern Oil and Gas Action Program (NOGAP), mainly during 1986. These items have been funded wholly or partly by NOGAP.

One of NOGAP's operating objectives is to make its products widely known and available. This volume, the second of an intended series, is issued in support of this objective. It was compiled by the NOGAP Secretariat, Indian and Northern Affairs Canada with the assistance of Mrs. Margaret McGee, the NOGAP Coordinator for the Government of the Northwest Territories.

The Program

NOGAP is a seven-year (1984/85 to 1990/91) research and planning program to advance the state of federal and territorial government preparedness for major hydrocarbon development north of 60°.

Government preparedness for northern hydrocarbon production refers generally to acquiring the knowledge and analytical capability to make appropriate decisions concerning major northern development proposals. Preparedness requires the ability to evaluate environmental impacts and mitigate adverse ones; to develop guidelines and techniques to minimize hazards; to plan for additional public services and infrastructure, and to implement means of enhancing northern opportunities and benefits from hydrocarbon development.

NOGAP funds may be used either to accelerate work on current projects or to undertake new activities which existing ("A"-base) resources cannot accommodate. Projects are proposed by NOGAP participants to support their responsibilities in connection with northern hydrocarbon development. They are undertaken within the context of generic development scenarios that have been adopted for the program.

Scope of the Bibliography

The bibliography is multi-disciplinary by virtue of the organizations participating in NOGAP--seven federal departments and both territorial governments:

Federal Government

1) Indian and Northern Affairs Canada - Natural Resources and Economic Development;

2) Fisheries and Oceans - Pacific and Freshwater Fisheries, Science Sector;

3) Environment Canada - Conservation and Protection, Atmospheric Environment;

4) Agriculture Canada - Canadian Forestry Service;

5) Energy, Mines and Resources Canada - Geological Survey of Canada;

6) Transport Canada - Canadian Coast Guard Northern;

7) National Museums of Canada - Canadian Museum of Civilization, Archaeological Survey of Canada.

Government of Yukon

1) Executive Council Office - Bureau of Statistics;

2) Education - Yukon Archives;

3) Economic Development: Mines and Small Business;

4) Renewable Resources - Lands, Parks and Resources; Fish and Wildlife;

5) Tourism - Heritage Branch.

Government of the Northwest Territories

1) Culture and Communications - Prince of Wales Northern Heritage Centre;

2) Economic Development and Tourism;

3) Energy, Mines and Resources Secretariat;

4) Health - Programs and Standards;

5) Justice and Public Services - Legal, Consumer Services;

6) Municipal and Community Affairs - Policy and Legislation, Regional Operations;

7) Renewable Resources - Policy and Planning, Wildlife Management, Environmental Planning and Assessment;

8) Social Services - Regional Programs.

The bibliography contains all the reports produced completely or partially with NOGAP funding and submitted to the NOGAP Secretariat between July 1, 1986 and January 31, 1987. Some of these reports have been published, primarily in well-known departmental series. A majority of reports have not been formally published, although some may later be published in existing series. The reports are final, unless otherwise noted. Such documents as interim and annual progress reports for projects are not included, given their transitional nature.

Organization of the Bibliography

The bibliography is organized by NOGAP participant, in the order shown in the preceding section, and by the project name and number under which the material was developed.

The bibliography contains a full citation and an abstract for each report. The citation format is that used by the Arctic Science and Technology Information System (ASTIS). Abstracts were provided by the author(s), project manager or the NOGAP Secretariat, with the source noted (Au, managers' name or NOGAP).

Availability of Documents

The last line of the citations (i.e., the last line preceding the abstract) contains a location code indicating where the document may be obtained on interlibrary loan. The symbols for Canadian libraries assigned by the National Library of Canada are used. Most citations show the library symbol OORD, which indicates that such documents are available from:

Indian and Northern Affairs Canada
Departmental Library
Interlibrary Loan Section
Ottawa, Ontario
K1A 0H4

The library symbols used are as follows:

ACSP	Institute of Sedimentary and Petroleum Geology, Calgary
AEECW	Canadian Wildlife Service, Environment Canada, Edmonton
AEEPS	Environmental Protection Service, Northwest Region, Environment Canada, Edmonton
BVAEP	Environmental Protection Service, Pacific Region, Environment Canada, West Vancouver
BVAG	Geological Survey of Canada, Vancouver
MWFW	Freshwater Institute, Fisheries and Oceans, Winnipeg
NSDB	Bedford Institute of Oceanography, Dartmouth
NWYECW	Canadian Wildlife Service, Environment Canada, Yellowknife
NWYGI	Government In-Service Library, Government of the Northwest Territories, Yellowknife
NWYIN	Indian and Northern Affairs Canada, Yellowknife
NWYOS	Otto Schaeffer Health Resource Centre Library, Yellowknife
NWYRR	Renewable Resources Library, Government of the Northwest Territories, Yellowknife
NWYWNH	Prince of Wales Northern Heritage Centre, Government of the Northwest Territories, Yellowknife
OOFF	Environment Canada, Ottawa

OOG	Geological Survey of Canada, Ottawa
OORD	Indian and Northern Affairs Canada, Ottawa
OTM	Atmospheric Environment Service, Environment Canada, Downsview, Ontario
YWA	Yukon Archives, Whitehorse
YWEEP	Environmental Protection Service, Environment Canada, Whitehorse
YWLS	Library Services Branch, Government of Yukon, Whitehorse

In some cases, individual copies of reports are available. A few citations contain this information. Further information on availability and source can be obtained from:

NOGAP Secretariat
Indian and Northern Affairs Canada
Ottawa, Ontario
K1A 0H4
(819) 994-6452

CITATIONS AND ABSTRACTS OF REPORTS

INDIAN AND NORTHERN AFFAIRS CANADA

GRANULAR RESOURCES INVENTORY AND MANAGEMENT PROGRAM (A.4)

Report on the analysis of bathymetric data : Western Beaufort (Yukon) continental shelf / Challenger Surveys & Services Ltd. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Edmonton, Alta. : Challenger Surveys & Services Ltd., 1986.
ii, 43 leaves : figures, tables, 28 cm.
Appendices.
References.
Pocket enclosure
OORD, NWYIN

A computer-based analysis of bathymetric data collected in the Western Canadian Beaufort Sea was undertaken to develop, test and implement a method of detecting subtle bathymetric anomalies and to provide a description of the regional bathymetry. Perspective mesh drawings of the sea floor were used as an improved method of depicting subtle bathymetric anomalies. Recommendations are included for undertaking future projects of this nature. (NOGAP)

Granular resource evaluation : Richards Island, N.W.T. / EBA Engineering Consultants Ltd. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Edmonton, Alta. : EBA Engineering Consultants Ltd., 1986.
iv, 32 p. : figures, tables ; 28 cm.
Appendices.
References.
OORD, NWYIN

A geotechnical evaluation of granular resource prospects on Richards Island was conducted during 1986 to re-evaluate and update information on the remaining resources on Crown lands in the northern Mackenzie Delta. The main objectives of the study were to locate additional supplies of, and to prepare development plans for sources determined to contain sufficient volumes of recoverable granular materials. The report includes summaries of the geological and geomorphic setting of Richards Island and of the field, laboratory and office procedures utilized in the evaluation. The results of the drilling program, laboratory testing and analysis are summarized in terms of overall material quality and quantity on a site-by-site basis. General recommendations for pit development and future work are provided. Detailed descriptions of site conditions, including borehole logs and laboratory test results, material qualities and quantities, and site-specific recommendations are presented in a separate appendix for each prospect investigated. (R. Gowan)

Overview of granular resources potential for the Western Beaufort (Yukon) continental shelf / Earth & Ocean Research Ltd. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Dartmouth, N.S. : Earth & Ocean Research Ltd., 1986.
iv, 78 leaves : figures, tables ; 28 cm.
Appendices.
References.
Pocket enclosures
OORD, NWYIN

This work is part of a program undertaken by Indian and Northern Affairs Canada to define systematically the sand and gravel deposits in the Beaufort Sea region. The study, conducted during February and March 1986, consisted of interpreting and integrating previously collected bathymetric, geophysical and geological data to provide an overview of the granular resource base. The area examined, about 5000 km^2, extends from the Yukon coast north to the shelf edge at approximately the 80 m contour, and westward from the eastern end of Herschel Island at approximately 139° W to the Yukon/Alaska boundary at 141° W. The proven, probable and prospective resources are defined in terms of location, areal extent, thickness, volume and quality. This overview will assist in planning future exploration studies to delineate granular materials for use in onshore or offshore construction by industry and government. (NOGAP)

OFFSHORE ENVIRONMENTAL ECOSYSTEMS MONITORING (A.7)

Beaufort environmental monitoring project 1984-1985 final report / ESL Environmental Sciences Limited. LGL Limited. ESSA Limited. Arctic Laboratories Limited. Arctic Sciences Limited. Canada. Dept. of Indian Affairs and Northern Development [Sponsor]. Canada. Environment Canada [Sponsor].
Ottawa : Dept. of Indian Affairs and Northern Development, 1986.
xxi, 162 p. : figures, tables ; 28 cm.
(Environmental Studies No. 39)
Appendices.
ISBN 0-662-15156-9
OORD, NWYIN

The Beaufort Environmental Monitoring Project (BEMP) was initiated in 1983 to provide the technical basis for the design, operation and evaluation of a comprehensive and defensible environmental research and monitoring program to accompany phased hydrocarbon development in the Beaufort Sea. This document is the report of activities during 1984/85. The primary activities were a pre-workshop review of studies initiated from December 1983; preparation of project overviews describing the purpose of these studies and their relationship to BEMP hypotheses; the workshop itself, and preparation of this report. The report contains a summary of the conclusions and recommendations from the workshop, a review of new information relevant to the various linkages that comprise the BEMP impact hypotheses, and the rationale for specific research or monitoring recommendations. (NOGAP)

Zooplankton of a bowhead whale feeding area off the Yukon coast in August 1985 / LGL Limited. Bradstreet, M.S.W. Arctic Sciences Ltd. Fissel, D.B. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
King City, Ont. : LGL Limited, 1986.
v, 155 p. : figures ; 28 cm.
Appendices.
References.
OCRD

The broad objective was to conduct field investigations on oceanographic conditions and the presence of planktonic food to understand better the significance of the study area in the bowhead whales' annual energy budget. Three tasks were undertaken and integrated: 1) physical oceanographic characterization of the study area; 2) determination of zooplankton biomasses in the study area; 3) assessment of the food value of zooplankton available to bowheads. The hydrographic regime occurring off the Yukon coast in late summer with prevailing easterly winds is conducive to the formation of zooplankton concentrations, which were found during this study. There is strong evidence that bowhead whales were feeding on these very small items. The results are consistent with the hypothesis that locations with high zooplankton biomass vary from year to year, probably depending on regional and local meteorological events. The results also suggest that dominant species in the zooplankton are also variable. However, to evaluate fully the hypothesis that bowhead distribution varies in response to changes in the distribution of their food, information is needed on zooplankton availability along the Yukon coast in years with prevailing westerly winds during late summer. (NOGAP)

DISTURBANCE OF MARINE MAMMALS BY INDUSTRIAL ACTIVITY (A.8)

Experimental use of aerial photogrammetry to assess the long term responses of bowhead whales to offshore industrial activities in the Canadian Beaufort Sea, 1984 / LGL Limited. Davis, R.A. Koski, W.R. Miller, G.W. Canada. Dept. of Indian and Affairs and Northern Development [Sponsor]. Canada. Dept. of Supply and Services [Sponsor].
King City, Ont. : LGL Limited, 1986.
xvi, 157 p., 3 p. of plates : figures, tables ; 28 cm.
Appendices.
References.
OCRD, NWYIN

This study tested a photogrammetric approach as a method to examine the effects of offshore industrial activities in the Canadian Beaufort Sea on bowhead whales. Vertical low-level aerial

photography was used. ... The study attempted to: 1) document daily and weekly movements of individually recognizable bowhead whales in relation to the presence or absence of industrial activities; 2) determine whether individual whales return in subsequent years to areas where they encountered industrial activities; 3) examine the relationship between a whale's length and its occurrence near industrial activities; 4) determine whether bowheads in the industrial area are representative of the Western Arctic population, and 5) increase the sample size of measured and individually recognizable whales. This study answered these questions to varying degrees because the rate of inter-day resightings of individually recognizable whales was low, few whales were present and photographed within the industrial area itself, and few between-year sightings were recorded. ... (Au)

Reactions of beluga whales and narwhals to ship traffic and ice-breaking along ice edges in the eastern Canadian high Arctic : 1982-1984 / LGL Limited. Canada. Dept. of Indian Affairs and Northern Development Canada [Sponsor].
Ottawa : Indian Affairs and Northern Development, 1986.
v, (various pagings) : figures, tables ; 28 cm.
(Environmental Studies No. 37)
References.
ISBN 0-662-14579-8
OORD, NWYIN

This report provides a general overview of a three-year study of the effects of ships and icebreaking on beluga whales and narwhals. This study was a response to specific concerns regarding proposals to send the MV ARCTIC through the ice in Admiralty Inlet and to a broader concern about the effects of Arctic shipping on marine mammals. Whale behaviour was monitored in three states: undisturbed; when the ships arrived and during periods of ship activity; and for short post-disturbance periods. The results clearly demonstrate that belugas and narwhals in the high Arctic are very sensitive to disturbance by shipping in the spring. However, the two species respond differently, in ways that reflect their overall survival strategies. These have been designated as a "flee" response in the beluga and a "freeze" response in the narwhal. The observable and audible behavioral traits associated with these patterns are described. (NOGAP)

Compilation of 1985 industrial activities in the Canadian Beaufort Sea / PN Research Projects. Norton, P. ESL Environmental Sciences Ltd. McDonald, J.W. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Sidney, B.C. : PN Research Projects, 1986.
iv, 50 p. : figures, tables, maps ; 28 cm.
Appendices.
References.
OORD, NWYIN

This document provides a compilation of 1985 industrial activities information for the Canadian Beaufort Sea. The methods used to compile, tabulate and organize the information are generally the same as those established in the 1983 compilation by the U.S. Minerals Management Service, with the following major exceptions: 1) the time frame was expanded to include June 1 to December 31, 1985; 2) available information on activities in "nearshore" areas was included; 3) summary tables plus maps are provided to indicate activity locations and intensity; 4) research flights were tabulated and mapped as separate activities. All of the data is available on 5.25" floppy diskettes for use on an IBM PC or compatible microcomputer using the dBase-III database management system. The diskettes are archived with Northern Environment Directorate, Indian and Northern Affairs Canada, Hull, Quebec. They include information on activity type, time period, specific vessel or aircraft used, and location of activity. (NOGAP)

Simultaneous counts of white whales using visual and photographic censusing techniques in the Beaufort Sea and Amundsen Gulf, July 1985 / PN Research Projects. Norton P. Dept. of Fisheries and Oceans, Western Region. Strong, J.T. Weaver, P.A. ESL Environmental Sciences Limited. Harwood, L.A. Electro-Magnetic Sensing and Interpretation. Barber, D.G. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Sidney, B.C. : PN Research Projects. ESL Ltd.
Winnipeg, Man.: DFO, Western Region. Electro-Magnetic Sensing and Interpretation, 1986.
16 p. : figures, tables ; 28 cm.
Appendix.
References.
OORD, NWYIN

During July 1985, concurrent aerial survey programs, one using visual and one using photographic censusing techniques, on white whales (Delphinapterus leucas) in the eastern Beaufort Sea and Amundsen Gulf provided an opportunity to compare these two techniques. ... To our knowledge, the present study is the first to compare simultaneous counts of cetaceans using aerial, visual and photographic techniques over a range of habitats and conditions. (Au)

HYDROCARBON ACTIVITIES: MARINE RESEARCH AND MANAGEMENT (A.20)

1982-1983 Beaufort Sea shorebase monitoring program; statistical analysis and recommendations for future programs / Dobrocky Seatech Ltd. Yunker, M.B. Canada. Department of Indian and Affairs and Northern Development [Sponsor].
Sidney, B.C. : Dobrocky Seatech Ltd., 1986.
xxii, 191 p. : figures, tables ; 28 cm.
(Final report)
Appendices.
References.
OORD, NWYIN

This report presents a statistical analysis of the 1982 and 1983 data reports produced for the Beaufort Sea Shorebase Monitoring Program. Recommendations are made regarding sampling and analytical considerations for the monitoring program as it is presently designed. The overall design of marine chemistry monitoring programs is also discussed as it applies to the Beaufort Sea Shorebase Monitoring Program requirements. Finally, requirements for quality assurance and quality control are discussed. (G. Stewart)

Beaufort Sea shorebase monitoring program a data report on 1984 geochemical sampling / Nuclear Activation Services Limited. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Hamilton, Ont. : Nuclear Activation Services Limited, 1986.
122 p. : figures, tables ; 28 cm.
Appendices.
References.
OORD, NWYIN

This data report is part of the joint government - industry Beaufort Sea shorebase monitoring program that is designed to monitor the marine environment along the Tuktoyaktuk Peninsula for potential impacts from oil industry activities. In the summer of 1984 sediment samples from 22 sampling stations along the Tuktoyaktuk Peninsula were collected. The sediment samples consisted or core and grab samples from 15 stations located in Tuktoyaktuk Harbour, 4 stations in McKinley Bay and 3 in Hutchison Bay. The results of the geochemical analysis of these samples for hydrocarbons, heavy metals, major elements, total organic carbon and sediment particle size are presented. (Au)

Long term potential for leaching of oil contaminated cuttings from the use of oil based muds in the Arctic marine environment / Dobrocky Seatech Ltd. Yunker, M.B. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Sidney, B.C. : Dobrocky Seatech Ltd., 1986.
xviii, 89 p. : figures, tables ; 28 cm.
(Final report)
Appendices.
References.
OORD, NWYIN

This report describes the experimental investigation of the rates and durations of release of oil and oil fractions from low aromatic mineral oil contaminated drill cuttings discharged to static (under ice) and dynamic (open water, wave) arctic marine environments. Experimental and analytical protocols are described and results are presented. The rates of hardening and consolidation (cuttings pavement formation) of the cuttings layers under static and dynamic conditions were also investigated. The wave regime was found to be the dominant influence in the experiments conducted; the oil concentrations on the cuttings were significantly affected by the presence of waves. (G. Stewart)

Incineration of oil based drilling muds / Dome Petroleum Limited. Canada. Dept. of Indian Affairs and Northern Development [Sponsor].
Calgary, Alta. : Dome Petroleum Limited, 1986.
ii, 85 p., plates ; figures ; 28 cm.
Appendices.
References.
OORD, NWYIN

This project investigated the usefulness of four oil spill incinerators for the disposal of oil based drilling muds. Three oil based muds (fresh diesel, fresh mineral and used diesel) were incinerated using the Air-Portable Incinerator, the Reciprocating Kilo, the Saacke Waste Oil Burner and the T.O.P.S. (Technical Offshore Petroleum Service) Burner. The efficiency of burn and quality of the resulting residue were evaluated for each device. It was found that all three muds could be burned with equal efficiency within each of the four incinerators. ... Two burners proved to be particularly effective for burning oil based muds. The T.O.P.S. burner incinerated all muds at high rates of combustion (average 331 bbls/day). The Saacke burner also provided significant incineration capability (average 166 bbls/day), although this unit would require modification to handle the solids content on a continuous basis. ... (Au)

ONSHORE ENVIRONMENTAL MONITORING AND RESEARCH PROGRAM (A.21)

Mackenzie environmental monitoring project 1985/86 final report / LGL Limited. ESL Environmental Sciences Limited. ESSA Environmental and Social Systems Analysts Limited. P.J. Usher Consulting Services Limited. Canada. Dept. of Indian Affairs and Northern Development [Sponsor]. Canada. Environment Canada [Sponsor]. Government of the Northwest Territories [Sponsor]. Government of the Yukon [Sponsor].
[S.l. : s.n.], 1986.
xxviii, 308 p. ; 28 cm.
Appendices.
OORD, NWYIN

This report summarizes the results of the first year of the Mackenzie Environmental Monitoring Program (MEMP). The objective of MEMP is to recommend a monitoring and research program that will both address significant potential impacts, based on current understanding of industrial development scenarios and ecological processes, and also have the capability to respond to changing industrial development scenarios and new information regarding ecological processes in the region. The recommended program must be applicable and practical, and be supported with full scientific and technical justification. This first report describes possible effects of developmental uncertainties in regard to predictive capability, recommended

research plans and rationale for the recommended studies. Since the nature of the recommendations have been heavily influenced by the methods, a description of the methods used throughout the program is included. Through workshops and technical meetings involving northern residents, government scientists and industry representatives and consultants, 25 impact hypotheses were developed. Conclusions and recommendations are provided for each hypothesis. (F. McFarland)

FISHERIES AND OCEANS

EFFECTS OF VESSEL NOISE AND TRAFFIC ON ARCTIC MARINE MAMMALS (B.1)

White whale use of the southeastern Beaufort Sea, July - September 1984 / Norton, P. Harwood, L.A. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg, Man. : Dept. of Fisheries and Oceans. Western Region, 1985.
v, 46 p. : figures, tables ; 28 cm.
(Canadian technical report of fisheries and aquatic sciences 1401)
(188th technical report, Western Region)
Appendices.
References.
Supply and Services Canada Cat. No. Fs 97-6/1401E
ISSN 0706-6457
OORD, MWFW

This report presents data collected on white whales (Delphinapterus leucas) during six systematic aerial surveys of the southeastern Beaufort Sea during July, August and September, 1984. The first survey coincided with the period when white whales concentrated in the Mackenzie Estuary, yet 40.8 white whales/1 000 km^2 were observed offshore. White whale abundance in the offshore Beaufort generally increased from early July through to the third week of July (99.7/ 1 000 km^2), and then declined. Cow-neonate pairs were frequently recorded offshore. White whales may have started moving into Alaskan waters as early as mid-July, although the results suggest that most migrated from the region between late July and mid-September. The July 21-23 survey results were used to calculate a minimum estimate of 7 081 animals in the study area; this estimate does not include whales in Amundsen Gulf, and has not been corrected for unseen animals or for reduced detectability of white whales in outer portions of the transect strip. Calving and feeding may occur offshore. (Au)

CRITICAL ESTUARINE AND MARINE HABITATS OF THE CANADIAN ARCTIC COASTAL SHELF (B.2)

Taxonomic key to larval fish species which occur in the shelf waters and estuaries of the Canadian Beaufort Sea / North/South Consultants Inc. Konrad, S.-L.R. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg, Man. : North/South Consultants Inc., 1985.
v, 128 p. : tables ; 28 cm.
(NOGAP report, no. B.2-6)
Appendices.
References.
Working draft report
OORD, MWFW

The species of larval fish occurring within the Canadian Beaufort Sea shelf and its estuaries have been systematically addressed. A precis of larval fish development and identification techniques are presented for the technician and research staff confronted with identifying larval fish. Some problems and recommendations in larval fish taxonomy are presented. A key to 12 families has been constructed, strictly based on species occurring in this region. A key to species is also provided for 8 of the 12 families and 30 of the 53 possible species. These keys are an attempt to summarize the present taxonomic knowledge on larval fish in this area and to accelerate and simplify specimen identification. Species descriptions, based on available information, follow each key, along with a list of useful references which comprises the bibliography. Illustrations, if available, follow each species description. (Au)

Aspects of the biology of arctic cod (boreogadus saida) and its importance in arctic marine food chains / Bradstreet, M.S.W. Finley, K.J. Sekerak, A.D. Griffiths, W.B. Evans, C.R. Fabijan, M.F. Stallard, H.E. Canada. Dept. of Fisheries and Oceans [Sponsor].
Winnipeg, Man. : Dept. of Fisheries and Oceans, 1986.
viii, 193 p. : figures, tables ; 28 cm.
(Canadian technical report of fisheries and aquatic sciences 1491)
(4th technical report, Central and Arctic Region)
(NOGAP report, no. B.2-10)
Appendices.
References.
Supply and Services Canada Cat. No. Fs 97-6/1491E
ISSN 0706-6457
OORD, MWFW

Arctic cod occur throughout the marine waters of northern North America, as far north as 88°N. Young-of-the-year (Y-O-Y) Arctic cod are planktonic. ... The diet of 708 Y-O-Y Arctic cod from six locations across northern Canada was investigated. ... We investigated measurement techniques for cod otoliths and found that length measurements through the centrum and parallel to the otolith's sides gave the least observer error. ... Otoliths are better than

scales for ageing. ... The age-frequency distributions of cod otoliths in predator samples (stomachs, feces) and in a few fish collections were compared. ... Growth of Arctic cod was investigated. ... There are significant differences in the growth of cod collected in different places and times, and measurements of annular growth increments in Arctic cod otoliths seem to offer a better potential for detecting growth differences than do calculations of Ford's growth co-efficients. Estimates of the mortality rates of Arctic cod were developed from the numbers of otoliths of different ages in different predators. ... The distributions and diets of three migratory marine mammals occurring in the eastern Canadian Arctic (harp seal, narwhal and white whale) indicated that Arctic cod undergo a major inshore movement during the late summer. In some areas this phenomenon occurs yearly, in others irregularly. ... predators are excellent sampling agents for Arctic cod. ... (Au)

Identification and characterization of arctic nearshore benthic habitats / LGL Limited. Thomson, D.H. Martin, C.M. Cross, W.E. Canada. Dept. of Fisheries and Oceans [Sponsor].
King City, Ont. : LGL Limited, 1986.
vii, 70 p. : figures, tables ; 28 cm.
(Canadian technical report of fisheries and aquatic sciences 1434)
(192nd technical report, Western Region)
(NOGAP report, no. B.2-18)
Appendices.
References.
Supply and Services Canada Cat. No. Fs 97-6/1434E
ISSN 0706-6457
OORD, MWFW

Infaunal samples (n = 460) from depths of 1-55 m at 25 sites in the eastern and central Canadian Arctic islands were analyzed. Nine infaunal species assemblages defined by factor analysis were, for the most part, not restricted in their geographical distribution but did show evidence of depth and substrate preferences. ... Depth, substrate, exposure, mortality and food supply appeared to be major determinants of standing crop and community structure. The upper 3-5 m was usually depauperate of infauna due to variations in temperature and salinity and presence of ice. The barren zone extended to deeper depths in exposed locations, as did the depth of maximum standing crop. The productivity to biomass ratio of bivalves was only about 0.1-0.2 but total productivity was moderately high. Predation on the infauna appears to be at a constant low level and mortality of the infauna is low. ... Rock substrates were characterized by chitons, gastropods and sessile epifaunal forms such as barnacles, mussels, anemones, tunicates, sponges and hydrozoans. Biomass on rock surfaces often was high and comparable to that of the infauna. Sea urchins were common in all areas with seaweed and their biomass may also be high. Quantitative intertidal samples (n = 234) from 16 locations in the central and eastern Canadian Arctic islands were analyzed. ... (Au)

Description of arctic nearshore meiobenthos from oiled and unoiled sediments at Cape Hatt, Northern Baffin Island / Martin C.M. Cross, W.E. Canada. Dept.of Fisheries and Oceans [Sponsor].
Winnipeg, Man. : Dept. of Fisheries and Oceans, 1986.
iv, 24 p. : figures, tables ; 28 cm.
(Canadian technical report of fisheries and aquatic sciences 1468)
(199th technical report, Western Region)
(NOGAP report no. B.2-19)
References.
Supply and Services Canada Cat. No. Fs 97-6/1468E
OORD, MWFW

Benthic meiofauna from shallow nearshore waters at Cape Hatt, northern Baffin Island, were dominated by nematodes (68.4% of individuals collected, foraminiferans (10.1%), and copepods (7.7%). Densities were high...relative to most other Arctic and boreal locations studied. Analyses of variance revealed several types of systematic variability in the densities of dominant meiofaunal groups: variability among depths, bays, and years. Possible effects of oil released during the Baffin Island Oil Spill (BIOS) project in 1981 were indicated in a posteriori comparisons between reference bays and one bay where sediment oil concentrations were elevated. ... Each of these differences was consistent with differences in measured (or presumed) oil concentrations among depths, bays, and years. However, the lack of pre-spill data and replicated oil treatments precludes unequivocal conclusions; factors other than oil (e.g. substrate or exposure) may have been responsible for the observed patterns of distribution. ... (Au)

ENVIRONMENT CANADA

NORTHERN MARINE PIPELINE CONTROL TECHNOLOGY (C.1)

Northern marine pipeline control technology / Monenco Consultants Limited.
Calgary, Alta. : Monenco Consultants Limited, 1986.
iii, (various leaves) : figures, tables ; 28 cm.
References.
OORD, YWEEP, AEEPS, OOFF

The objective of this report is to describe current marine pipeline technology as it relates to the Arctic environment, and to discuss the environmental and technical implications and information gaps of marine pipeline construction and operations. The report describes the state-of-the-art of Arctic marine pipeline construction and identifies the unique aspects of the construction and operation of a pipeline in the Arctic environment. In particular, the ever-present ice conditions, the relatively short open water season and the need to protect the pipeline from scour by various types of ice features have been identified. Various parameters which characterize the

environmental implications of pipeline failure or release of pipeline contents are described. A pipeline fluid release of known quantity and chemical characteristics at a defined Arctic location, combined with the environmental implications, will allow environmental assessment of oil spills or other pipeline fluid releases. (E. Collins)

BEHAVIOUR OF OIL IN ICY WATERS (C. 6-1)

Behaviour of oil in freezing situations / Department of Chemical Engineering and Applied Chemistry, University of Toronto. Wilson, D.G. Mackay, D. Canada. Environment Canada [Sponsor].
Toronto, Ont. : University of Toronto, 1986.
iv, 63 p. : figures, tables ; 28 cm.
(C&P manuscript series)
References.
OORD

An experimental study of the behaviour of an oil spill in a developing (grease) ice field is described. It was found that significant quantities of oil may be entrained within and beneath a grease ice field. ... It is suggested that the results and observations obtained here be used as a component in an "expert system" computer model that would aid in the prediction of the fate and behaviour of an oil spill in the presence of a developing ice field and in other regimes in which oil may interact with ice. This model may then be included as part of a comprehensive model encompassing the entire spectrum of oil spill conditions which may occur in the Arctic marine environment. (Au)

MIGRATORY BIRD DISTURBANCE, ASSESSMENT AND MANAGEMENT (C.7)

Beaufort Sea coastal bird surveys 1985 season / Canadian Wildlife Service. Alexander, S.A.
Edmonton, Alta. : Canadian Wildlife Service, 1986.
viii, 80 p. : figures, tables ; 28 cm.
Appendices.
References.
OORD, AEBCW, NWYECW, YWLS

Three surveys were flown along the coast of the Beaufort Sea from Komakuk Beach, Yukon Territory to the Baillie Islands, Northwest Territories in late July, mid-August and early September 1985 to locate broodrearing, moulting and migrating birds. Results were compared to similar flights flown in 1980 and 1981, and coastal regions important to birds were identified, based on the results of all three years of surveys. ... (Au)

BEAUFORT SEA STATE FORECAST MODEL (C.16)

Forecasting Beaufort Sea wind waves by a momentum balance method / MacLaren Plansearch Limited. Canada. Atmospheric Environment Service [Sponsor].
Halifax, N.S. : MacLaren Plansearch Limited, 1986.
1 v. (various leaves), : figures, tables ; 28 cm.
Appendices.
References.
OORD, OTM

The study developed, tested and evaluated a "practical" wave forecast procedure for the Beaufort Sea, based on an existing Atmospheric Environment Service lake wave model. The particular model utilized in this study is a deep water parametric model based on a momentum balance procedure developed in the late 1970s by Dr. Mark Donelan of the Canadian Centre for Inland Waters. The study consisted of four mutually dependent tasks: 1) conversion of the AES lake wave model to a Beaufort Sea wave model, including documentation of the software; 2) assembly of a data base consisting of relevant environmental data (i.e., winds, waves, ice, bathymetry, etc.); 3) model runs and case studies for a pre-selected study period; 4) comparison of model results against observed data. The model used in this study is an Eulerian parametric wave forecast model, which differs from other parametric models in a number of ways. The general conclusion reached is similar to that stated in a number of previous model applications for the Great Lakes; i.e., the model has considerable potential for use as an operational wave forecaster for the Beaufort Sea but a significant amount of work still needs to be done, particularly in the areas of modeling marginal ice conditions and obtaining accurate input winds. (NOGAP)

Forecasting Beaufort Sea wind waves by a momentum balance method : supplementary data base report / MacLaren Plansearch Limited. Canada. Atmospheric Environment Service [Sponsor].
Halifax, N.S. : MacLaren Plansearch Limited, 1986.
1 v. (various leaves) : maps ; 28 cm.
OORD, OTM

This report documents the data base assembled and/or identified as part of the title study. Although the study is confined to the period July 25 to October 5, 1981, data for the years 1982, 1983 and 1984 has been identified to facilitate future testing and evaluation of models for the Beaufort Sea area. The primary source of obtaining wind, bathymetry and observed (wind and wave) data was from the AES archived data files for the years 1981 to 1984. The report documents all of the raw data collected and describes to some extent the results of the preprocessing done in order to utilize the data for the study. The files described in this report are: 1) wind data - CMC winds for 1981 study period and 1981-1984, and observed winds for

1981 study period; 2) bathymetry and shoreline data - fine and coarse grid, and model grid; 3) ice boundary data - composite charts for 1981 study period and 1981-1983, and maximum, median and minimum; 4) observed wind and wave data - MAST 1980-1983, DOME observations for 1976-1982 and MEDS waverider data for 1981-1982. (NOGAP)

BEAUFORT WIND CLIMATOLOGIES (C.18)

Evaluation of existing climatologies for the Beaufort Sea / The MEP Company. Canada. Atmospheric Environment Service [Sponsor].
Downsview, Ont. : Atmospheric Environment Service, 1986.
v, 88 p. : tables ; 28 cm.
(Canadian Climate Centre report, no. 86-13)
Appendices.
References.
Final report
OORD, OTM

Over the past 10 to 15 years a variety of climate studies have been done for the Beaufort Sea area by both industry and government. This report provides a review of as many of these studies as possible to document the current extent of knowledge, identify and assess any limitations of previous studies, and identify priorities for future research. The report is addressed in particular to the needs of the oil and gas industry. (Au)

Assessment of Canadian Arctic wind data sets / Environmental Climate Services. Olson, R. Canada. Environment Canada, Atmospheric Environment Service [Sponsor].
Downsview, Ont. : Atmospheric Environment Service, 1986.
vii, 58 p. : figures, tables ; 28 cm.
(Canadian Climate Centre report, no. 86-9)
Appendices.
References.
OORD, OTM

A knowledge of oceanic wind fields is a principal requirement for many meteorological and oceanographic applications. In Arctic Canada coastal and offshore Ships-of-Opportunity wind data are sparse and generally have short durations. As an attempt to fill the data gap, hindcast computer winds have been generated using readily available synoptic atmospheric pressure gradients. The purpose of this study is to provide an analysis of the quality of these computer generated and Ships-of-Opportunity winds. These data have been compared relative to both Atmospheric Environment Service coastal stations and geostrophic winds that were extracted from the pressure fields of synoptic weather maps. There are large variations in the wind field between some data sets but, between others, the differences are not significant. Not only does this occur within subregions but also between adjacent sites. Thus, none of the data sets are adequate for all applications. Caution must be exercised when choosing a data set for a particular application for a certain area. (Au)

ENERGY, MINES AND RESOURCES CANADA

COASTAL ZONE GEOTECHNICS, BEAUFORT SEA (D.1)

King Point coastal zone sediment transport study (contractor's report on field operations) / Dobrocky Seatech Ltd. Gillie, R.D. Canada. Geological Survey of Canada [Sponsor].
Sidney, B.C. : Dobrocky Seatech Ltd., 1985.
viii, 29 leaves, [105] p.: figures, tables; 28 cm.
(Geological Survey of Canada open file report, no. 1260)
Copies available from Maritime Resource Management Services, P.O. Box 310, Amherst, N.S., B4H 3Z5, $29.15.
Appendices.
References.
OOG, NSDB, BVAG

This study was conducted at King Point on the Yukon coast of the Beaufort Sea from 24 August to 16 September, 1985 for the King Point Coastal Zone Sediment Transport Study. King Point has been proposed as a site for a port in connection with Beaufort hydrocarbon development. Information on the wind and wave climate, coastal geology, and rates and directions of sediment transport is required. The data collected in this study is being used to provide input to coastal sediment transport model predictions for the King Point area. The report contains a brief description of the study area and the design of the field experiment, followed by a detailed account of the instrumentation and techniques used, and an inventory of the data collected. Finally, a brief discussion of the field program makes suggestions for alterations or improvements to the techniques used. (NOGAP)

Interpretation of Beaufort Sea 1985 high resolution refraction/reflection data / Fortin, G. Canada. Geological Survey of Canada [Sponsor].
Hull, P.Q.: Guy Fortin, 1986.
i, 53 leaves, [5] leaves of plates : figures ; 28 cm.
(Geological Survey of Canada open file report, no. 1350)
References.
Pocket enclosure
OOG

A combined high resolution seismic refraction/reflection survey was carried out during September 1985 by the Terrain Geophysics Group of the Geological Survey of Canada to test a deep towed, 12-channel marine eel in the Canadian Beaufort Sea. The primary objective was the detection of sub-bottom ice-bearing permafrost within about 20 m of the seabottom, as an aid in pipeline routing and wellsite evaluation. The study also provided velocity measurements of unfrozen seabed sediments, which may be useful in the search for granular deposits. The report describes the seismic compressional wave velocities and the geologic features encountered in the immediate

sub-bottom along a number of regional lines. These lines were traversed north of Pullen Island on the Akpak Plateau and across the Kugmallit Channel, where future pipeline routes might be located. The lines comprise six profiles with 792 velocity observations along about 110 km of seismic data. These profiles pass through Isserk E-27, Arnak L-30 and Kugmallit H-59 wellsites. Vertical incidence single channel reflection records were collected along five lines. (NOGAP)

Sediment transport study at King Point, Yukon Territory / Atlantic Geoscience Centre. Morgan, P.
(Current Research - Geological Survey of Canada, part B. paper 86-1B, p. 859-863, 1986, figures)
References.
OOG, NSDB

A field study was conducted at King Point to collect sediment transport and coastal zone data. Nearshore directional wave measurements were collected for the first time in the Canadian Beaufort Sea. The data also included wind speed and direction, bottom current velocities and directions, sediment samples, and beach and bathymetric profiles. The data will be used to calibrate numerical models to estimate wave climate and alongshore sediment transport rates and directions. (Au)

ARCTIC ISLAND CHANNEL GEOTECHNICS (D.2)

Geological data compilation for marine areas of the Canadian Arctic Archipelago / M.J. O'Connor & Associates Ltd. Geological Survey of Canada [Sponsor].
[S.l] : M.J. O'Connor & Associates Ltd., 1984.
21 p., (various leaves) : figures, maps, tables; 28 cm.
(Geological Survey of Canada open file report, no. 1159)
Copies available from Precision Microfilming Services Ltd., Halifax at users expense.
Appendices.
References.
OOG, NSDB, ACSP, BVAG

This open file comprises a comprehensive compilation of geological data sources developed over the period 1943-1984 pertaining to the Canadian Arctic Archipelago. The majority of the information assembled was related to the geological, geophysical and geotechnical properties of the unconsolidated sediments and shallow bedrock materials underlying and immediately adjacent to the marine areas. The open file comprises an annotated bibliography and 31 CHS charts showing boundaries of marine related studies, sample locations and track plots of government and industry surveys. (B. MacLean)

Geological and cruise report on the bottom sampling program and operation of CSL TUDLIK on the CSS BAFFIN hydrographic cruise 84-015, Jones Sound, District of Franklin, N.W.T., Canada August-September 1984 / Geomarine Associates Limited. Ruffman, A. Geological Survey of Canada [Sponsor]
Halifax, N.S.: Geomarine Associates Limited, 1985.
vi, 87 leaves, : photos, figures, tables ; 28 cm.
(Geological Survey of Canada open file report, no. 1261)
Copies available from Precision Microfilming, Halifax, $39.00.
Appendices.
References.
Pocket enclosures
OOG, NSDB

The Arctic Pilot Project prompted the Canadian Hydrographic Service to initiate a two-year, multidisciplinary study of the bathymetry, geology and geophysics of Jones Sound in 1983. For its second year, the Atlantic Geoscience Centre decided not to attempt a full multidisciplinary geophysical survey, given the problems encountered with ice, logistics and ship time in 1983. Instead, it equipped the Canadian Survey Launch (CSL) TUDLIK for shallower water, nearshore work. The prime areas investigated were those on the shelf and slope around the margins of Jones Sound, shoreward of the areas mapped in 1983 to establish continuity with the previously-mapped offshore areas, wherever possible. The work done included a compilation on chart scale of interpreted seabed sediment type, sediment boundaries and relevant seabed data. (NOGAP)

Geochemical and mineralogical studies in the Arctic Archipelago / Centre for Cold Ocean Resources Engineering, Memorial University of Newfoundland. Macko, S.J. Segall, M.P. Pereira, C.P.G.
St. John's, Nfld. : C-CORE, University of Newfoundland, 1985.
v, 19 leaves : figures, tables ; 28 cm.
(Geological Survey of Canada open file report, no. 1315)
Copies available from Precision Microfilming, Halifax, N.S., $10.80.
Appendices.
References.
OOG, NSDB

The Byam Martin Channel region of the Canadian Arctic Archipelago has a clay mineral suite typical of northern, high latitude sediments, with chlorite and illite dominating the clay-sized fraction. Montmorillonite is prevalent (42-62%) in the nearshore areas of the Sabine Peninsula, Melville Island and Lougheed Island. The decrease of montmorillonite in sediments with distance from shore and from north to south in the study area is probably a result of differential flocculation and settling in the marine environment, and may be useful in determining local current patterns within the study area. Stable carbon and nitrogen isotopic analyses indicate three independent sources of organic material. Major localized inputs of ^{15}N rich organics mix with cold water marine and terrigenous end members. (Au)

Marine geological program in the Byam Martin Channel - Lougheed Island region, District of Franklin / Atlantic Geoscience Centre. MacLean, B. Vilks, G.
(Current Research - Geological Survey of Canada, part A. paper 86-1A, p. 769-774, 1986, figures, table)
References.
OOG, NSDB

A seabed sediment sampling program was carried out through the ice in the Byam Martin Channel - Cameron Island - Lougheed Island region of the Canadian Arctic Archipelago in April and May 1985. Sampling operations were carried out at 79 stations over a 23 200 km^2 area mainly with a 27 kg gravity corer. Maximum core recovery was approximately 1 m. Grab samples were obtained at 19 stations with a Dietz-Lafonde sampler. Preliminary results indicate that the upper metre of seabottom sediments consists predominantly of silt or clay with variable amounts of coarser material. Foraminifera in the surface sediments indicate a distinct faunal break at 200 m water depth which is related to water mass characteristics. (Au)

TRANSPORT CANADA

STUDIES TO ASSESS AND DEVELOP ARCTIC NAVIGATION SYSTEMS (E.5)

St. Lawrence River passive microwave experiments : winter 1985 / Norland Science and Engineering Ltd. Cameron, M. Bjerkelund, C. Lapp, D.
Ottawa : Environment Canada, Atmospheric Environment Service, 1985.
2 v. (xi, 144; various pagings) : figures, tables, plates ; 28 cm.
Appendices.
References.
OORD

... In preparation for the verification of an airborne passive microwave system with an imaging capability having a much higher resolution than satellite-based systems within the Atmospheric Environment Service (AES), the first of a series of ice research experiments was initiated in 1981 at Grindstone Island, New York...to obtain a better understanding of freshwater ice passive microwave signatures. Variations of the project were repeated each winter, except for 1983, wherein truthing activities were conducted to correlate SLAR imagery with the ice surface features. This report presents the results of the 1985 experiment conducted between January and March. A 37 GHz passive microwave radiometer was erected on a dock platform overlooking the newly forming ice in December 1984. Data acquisition commenced in mid-January, with three additional data sets collected over February and early March. The data sets consisted of brightness temperature measurements as a function of angle between

0° (nadir) and 90° at a select set of azimuth angles. ... The objectives of the program were revised as follows: 1) to determine the effect of snow cover on microwave signatures as a function of air temperature, snow wetness and snow grain size, if practical, and 2) to determine the effect of open water on passive microwave signatures at various incidence angles. (Au)

CANADIAN MUSEUM OF CIVILIZATION

NORTHERN HYDROCARBON ARCHAEOLOGY: A COORDINATED ATTEMPT AT DEVELOPING AN INTEGRATED RESOURCE MANAGEMENT SYSTEM WITHIN THE NOGAP AREA (F.1)

Copies of all reports issued under this project are available from: Curator of Scientific Records, Archaeological Survey of Canada, Canadian Museum of Civilization, Ottawa, Ontario K1A 0M8.

Report of field activities - NOGAP 1985: Northern Yukon-Western Mackenzie Delta / Archaeological Survey of Canada, National Museum of Man, Le Blanc, R.J.
Ottawa : Archaeological Survey of Canada, National Museum of Man, 1986.
vi, 77 leaves, [31] plates : figures, tables ; 28 cm.
Appendix.
References.
OORD

The 1985 field season of NOGAP archaeological work included inventory of the eastern half of the Yukon coastal plain and parts of the eastern flank of the Richardson Mountains, and test excavations at a previously located site on the Trail River (NgVh-1) at the western limit of the study area. Twenty-four sites were found along river valleys, on the Beaufort Sea coast, and on upland knolls and ridges of the North Slope. Test excavations at NgVh-1 yielded an assemblage characterized by technological debris associated with the production of antler tools. The site also had tent rings, house and shooting blind depressions, and a rock alignment used as a caribou drive. These features suggest that the site was a seasonal caribou hunting complex, used to exploit the Porcupine caribou herd. (Au)

Mackenzie Valley archaeological survey field report / Archaeological Survey of Canada, National Museum of Man. Pilon, J.L.
Ottawa : Archaeological Survey of Canada, National Museum of Man, 1985.
43 leaves, [8] plates : figures ; 28 cm.
Appendix.
References.
OORD

The first field season of the Archaeological Survey of Canada, Canadian Museum of Civilization NOGAP project in the southwest Anderson Plain took place in 1985. Seventy-eight localities were inspected, of which forty had evidence of either prehistoric (18) or historic (11) occupations, or both (4). Seven could not be firmly attributed to either period. Most of the prehistoric components are characterized by thin scatters of faunal remains and lithic debitage as well as occasional hearths and fire-cracked rocks. They appear to relate to the late prehistoric period, although the nature of the samples makes this statement highly tenuous. (Au)

Northern Oil and Gas Action Plan assessment of the Lancaster Sound Region: an archaeological survey of the southeast coast of Devon Island from Wellington Channel to Stratton Inlet, August 3-12, 1985 / Northlands Research. Sutherland, P.D. Canada. Archaeological Survey of Canada, National Museums of Canada [Sponsor].
(S.l.) : Northlands Research, 1986.
88 leaves, [32] plates : figures, tables ; 28 cm.
Appendices.
References.
OORD

During the summer of 1985, the contractor undertook both helicopter and ground surveys for archaeological sites in the area under consideration. The work, which also included test excavations at one specific locality at the entrance to Maxwell Bay, was carried out in order to increase the archaeological database along one segment of the Northwest Passage and, in so doing, to provide the archaeological component of NOGAP with a better appreciation of the area's archaeological research and management requirements. Following a presentation of the study area and an archaeological overview, the report deals with the details of both field and laboratory work, and with the description and evaluation of identified sites and collections. In conclusion, it offers a number of recommendations relative to archaeological resource management in the Lancaster Sound region. (J. Cinq-Mars)

Report on Kugaluk site excavations, 1985 / Archaeological Survey of Canada, National Museum of Man. Morrison, D.A.
Ottawa : National Museums of Canada, 1985.
i, 12 leaves, [3] plates : figures ; 28 cm.
References.
OORD

Excavations were undertaken in 1985 at Kugaluk, an early historic Mackenzie Inuit site located in Kugaluk Inlet, in the northwestern Northwest Territories. A number of activity areas and structures were mapped and tested, and both faunal and artifact collections were made. The site appears to be an important one from a number of research perspectives, and further work is strongly recommended. Kugaluk is in immediate danger of destruction due to land recession and erosion. (Au)

Report of field activities - NOGAP 1986: Northern Yukon to Cape Bathurst Peninsula / Archaeological Survey of Canada, Canadian Museum of Civilization. Le Blanc, R.J.
Ottawa : Archaeological Survey of Canada, Canadian Museum of Civilization, 1987.
120 leaves, 50 plates : figures, tables ; 28 cm.
References.
OORD

In 1986, the Archaeological Survey of Canada continued the NOGAP archaeological programme in the Beaufort Sea region which it had begun the previous year. Inventories were conducted along the Yukon Coastal Plain, Richards Island, the Tuktoyaktuk Peninsula, Liverpool Bay-Eskimo Lakes, the lower Anderson River, and the area around Harrowby Bay on the Bathurst Peninsula. Test excavations were also continued at a site (NgVh-1) on the Trail River. The Yukon inventory resulted in the discovery of 16 sites, some of which indicate intensive caribou hunting in the upper Trail and Tuluqaq rivers. In the Northwest Territories, the wide-ranging surveys added 51 new sites to the existing database and six others were revisited. The most archaeologically productive areas were the Tuktoyaktuk Peninsula between Tuktoyaktuk and McKinley Bay, and the mouth of the Anderson River. (Au)

Reconnaissance archéologique dans le sud-ouest de la plaine d'Anderson et dans la vallée du fleuve Mackenzie - rapport de terrain (PIPGN) / Commission archéologique du Canada, Musée canadien de civilisation. Pilon, J.-L.
Ottawa, Ont. : Commission archéologique du Canada, Musée canadien de civilisation, 1987.
106 feuilles : photos, figures, tables ; 28 cm.
Réferences.
OORD

En cette deuxième saison d'activités du projet archéologique PIPGN, de la Commission archéologique du Canada, Musée canadien des civilisations, 5 sites trouvés en 1985 ont été revisités afin d'y recueillir des données additionnelles et 18 nouveaux sites archéologiques ont été découverts dans le sud-ouest de la plaine d'Anderson. Sur quatre des sites réexaminés, nous avons trouvé des maisons semi-souterraines. Deux autres habitations de ce genre ont été découvertes sur un des nouveaux sites. Les autres consistent en des restes fauniques, du débitage lithique et des traces de combustion. Nos observations suggèrent qu'elles remontent à la période préhistorique tardive. L'étude des données ayant trait a cette période pourrait bientôt permettre une synthèse préliminaire des schèmes d'exploitation de la région. (Au)

The second season of fieldwork in the southwest Anderson Plain portion of the Archaeological Survey of Canada, Canadian Museum of Civilization NOGAP project took place in 1986. Five previously known sites were revisited in order to collect additional information and 18 new sites were found. Semi-subterranean house pits were discovered on 4 of the revisited sites. Two other house pits were discovered on one of the newly discovered sites. The finds of most of the new sites consist of thin scatters of faunal remains and lithic debitage, and occasionally evidence of combustion activities. Most of these sites appear to relate to the late prehistoric period. The data which are now available for this time period should soon permit a preliminary synthesis of the exploitation patterns of this area. (Au)

Pilot study for assessment of landscape archaeological potential in NOGAP area / Terrain Analysis and Mapping Services Ltd. Rampton, V.N. Canada. Archaeological Survey of Canada [Sponsor].
Ottawa, Ont. : Terrain Analysis and Mapping Services Ltd., 1986.
39 leaves : tables, maps ; 28 cm.
References.
OORD

A pilot study was undertaken during the summer of 1986 to develop an efficient means of mapping and predicting the archaeological potential of landscape within the NOGAP area. The three areas selected for study included: 1) parts of the Yukon Coastal Plain, 2) southern Richards Island, and 3) Harrowby Bay. A classification system was developed using a range of variables to assign rankings to terrain units established on the basis of previous quaternary mapping. Preliminary infield evaluation of the programme indicates potential for improved site discovery, but more intensive field investigations will be required to more fully assess its potential. (R.J. Le Blanc)

Report on Kugaluk site excavations, 1986 / Archaeological Survey of Canada, Canadian Museum of Civilization. Morrison, D.A.
(S.l.) : Canadian Museum of Civilization, 1986.
21 leaves, [4] plates : figures ; 28 cm.
References.
OORD

In 1986, the final phase of archaeological investigations at the Kugaluk site (NgTi-1) were carried out. This work involved the excavation of House 1, portions of its associated middens and two exterior activity areas (B and C). The remains appear to be those of 19th century Nuvurogmiut who concentrated heavily on the exploitation of caribou from spring until early winter. This data may thus provide evidence for a hitherto undocumented aspect of the Nuvurogmiut settlement/subsistence pattern. Additional site survey in the area resulted in the discovery of 5 new sites which may relate to Mackenzie Inuit, Dene and fur trade activities. (J.-L. Pilon)

GOVERNMENT OF YUKON

Department of Education, Yukon Archives

BEAUFORT HYDROCARBON INFORMATION ACQUISITION AND PROCESSING (G.2)

Hydrocarbon development : a Yukon perspective : an annotated bibliography of sources available in the Yukon Archives / Cameron, N.P. Yukon. Dept. of Education. Yukon Archives [Sponsor].
Whitehorse, Yukon : Yukon Archives, 1986.
viii, 536 p. ; 28 cm.
YWA, YWLS, OORD

This bibliography was compiled to provide greater accessibility to the vast amount of information related to northern hydrocarbon development that is available in the Yukon Archives. The geographic emphasis of the bibliography is on Yukon and the Beaufort Sea, but material dealing with the Northwest Territories and Alaska is also included. There are 1015 entries of both published and unpublished works held in the Archives, including monographs, articles in books, government and consultant reports, manuscripts and corporate records. (NOGAP)

GOVERNMENT OF THE NORTHWEST TERRITORIES

Department of Culture and Communications

TRAINING NORTHERNERS IN ARCHAEOLOGICAL TECHNIQUES (H.32)

Preliminary report on the NOGAP archaeological field training program, Drum Lake: the 1985 season / Dept. of Anthropology and Sociology, University of British Columbia. Pokotylo, D. Prince of Wales Northern Heritage Centre. Hanks, C.C.
Yellowknife, N.W.T. : Prince of Wales Northern Heritage Centre, 1986.
ix, 78 p. : figures, tables ; 28 cm.
References.
OORD, NWYGI, NWYWNH

The objective of the NOGAP archaeological field training program was to develop and evaluate a curriculum that can be used to rapidly train native residents of the Mackenzie Valley for work as field assistants on archaeological projects arising from hydrocarbon development in the Beaufort Sea - Mackenzie Valley area. Based upon the site survey and excavation conducted in 1985, a preliminary analysis of the archaeology of Drum Lake was also completed. (Au)

Energy, Mines and Resources Secretariat

SOCIO-ECONOMIC MONITORING SYSTEM, NORTHERN HYDROCARBON DEVELOPMENT (H.8)

Beaufort Region cumulative monitoring indicator catalogue / Energy, Mines and Resources Secretariat.
Yellowknife, N.W.T. : Energy, Mines and Resources Secretariat, 1986.
156 p. : tables ; 28 cm.
OORD, NWYGI

Hydrocarbon development in the Beaufort Region is expected to have a number of socio-economic impacts. A report by Carley (1984) grouped these impacts into issues of community concern which should be monitored. A study by Rolf (1985) looked at the issues of demography, urbanization and industrialization, municipal issues, wage employment, business development, prices and incomes, renewable resource harvesting, education, community control, and the mass media. A second study by Elkin-Hall (1985) dealt with the issues of welfare dependency, family life, health, alcohol use, public safety, and housing. The two studies have been combined to create this package. ... The aim of these studies was to first identify various sources and types of data and then to identify the possible limitations of the data with regard to being valuable indicators. Most of the information came from territorial government headquarters and federal government offices in Yellowknife. ... (Au)

Department of Municipal and Community Affairs

FUNDS FOR TUKTOYAKTUK AND INUVIK COUNCILS TO IDENTIFY IMPACTS AND PLAN FOR DEVELOPMENT (H.2)

Industrial land inventory / Nordzone Consultants Ltd. Town of Inuvik. Northwest Territories. Dept. of Municipal and Community Affairs [Sponsor].
Inuvik, N.W.T. : Nordzone Consultants Ltd., 1985.
147 p : tables ; 28 cm.
(Separate wall-size maps)
NWYGI

This report establishes a data base documenting the existing land use of industrial properties and evaluates the development potential of and restrictions on the vacant industrial land within the Town of Inuvik. Each surveyed industrial property was examined under the following parameters: block and lot number, registered owner, size of lot, present use, buildings,drainage, vegetation, fill, access, adjacent property development, miscellaneous. Each lot is a separate file within the data base table. This report provides the basis for future decisions regarding the use and development of industrial land. Information contained in this report is also available on computer disc. (T. Detlor)

Proposal to prepare a recreational greenbelt masterplan for the Town of Inuvik, N.W.T. / Planarctic. Lavoie, L. Parent, A.M.C. Tutter, B. Woolham, A. Northwest Territories. Dept. of Municipal and Community Affairs [Sponsor].
Inuvik, N.W.T. : Planarctic, 1986.
38 leaves : figures, maps ; 28 cm.
References.
OORD, NWYGI

This report identifies a comprehensive, overall master plan for the parks and greenbelt areas within the Town of Inuvik. It coordinates and provides direction to the various projects identified to develop the town's recreational land, including a town square, marina/ cultural complex, walking trails, playgrounds and beautification of the downtown core. The report will serve as a decision making tool for the Town Council and the Inuvik Recreation Board. (T. Detlor)

Town of Inuvik Navy Road evaluation / Reid Crowther & Partners Ltd.
Calgary, Alta. : Reid Crowther & Partners Ltd., 1986.
39 leaves : figures, tables, maps ; 28 cm.
Appendices.
References.
OORD, NWYGI

This study evaluates the existing traffic and physical condition of Navy Road and estimates the future load resulting from oil and gas development. It also makes recommendations on upgrading the throughfare to be able to handle the forecast traffic. (T. Detlor)

Tuktoyaktuk airport relocation and planning study / Reid Crowther & Partners Ltd. Hamlet of Tuktoyaktuk. Northwest Territories. Dept. of Municipal and Community Affairs [Sponsor].
Calgary, Alta. : Reid Crowther & Partners Ltd., 1986.
v, 138 leaves : figures, tables, ; 28 cm.
(Final report)
References.
OORD, NWYGI

This study assessed Tuktoyaktuk's needs and options with regard to land available for development, especially for residential purposes. Use of the airport site for such development was one of the options examined. Development options were compared in terms of capital and operating costs, and social priorities and issues. The report supported the Hamlet's stated need for relocation of the airport in the long term to allow growth of the community to proceed in an acceptable manner. Development options in other areas of the Hamlet were identified to meet short term demand. (NOGAP)

Tuktoyaktuk airport relocation and planning study - stage 2 design concept and community plan amendments / Reid Crowther & Partners Ltd. Kyllo Planning and Design. Hamlet of Tuktoyaktuk. Northwest Territories. Dept. of Municipal and Community Affairs [Sponsor].
Calgary, Alta. : Reid Crowther & Partners Ltd., 1986.
1 v. (various pagings) : figures, maps, ; 28 cm.
Schedules.
OORD, NWYGI

This study was undertaken to provide the Hamlet Council with design concepts for the optimum use of the airport site and to prepare amendments to the community plan required by changes to the airport land. The first section describes the approach, process and results of the design concept. The second section presents the amendments to the Community Plan in by-law form. (NOGAP)

MUNICIPAL ORGANIZATION, SERVICES AND INFRASTRUCTURE IMPACT PLANNING (H.6)

Planning for resource development impacts on community government operations : background report for working sessions / RMC Resources Management Consultants (N.W.T.) Ltd. Northwest Territories. Dept. of Local Government [Sponsor].
Yellowknife, N.W.T. : RMC Resources Management Consultants (N.W.T.) Ltd., 1986.
87 p. ; 28 cm.
Appendices.
References.
Workshop graphics.
OORD, NWYGI

This report documents the impact management experiences of four community governments during the Norman Wells pipeline project, 1983-1985. The communities examined were Fort Norman, Wrigley and Fort Simpson in the NWT and Assumption in northern Alberta. Very brief sketches of similar experiences in Coppermine, N.W.T. and Anzac, Alberta are also included. The report draws from reports, documents and interviews with community members. The objective was to select experiences demonstrating how changes resulting from resource development may be guided (or opportunities exploited) to sustain or achieve community goals. Community issues and actions are cited in each case. These examples are to be used as case studies in workshops with north Beaufort/Delta community governments to assist them in preparing for similar development pressures. (D. Fisher)

Department of Renewable Resources

RENEWABLE RESOURCES HYDROCARBON DEVELOPMENT IMPACT AND PLANNING GUIDELINES (H.4)

Selection of important areas for wildlife in the Northwest Territories / Salix Enterprises Ltd. Allison, L.M. Western Ecological Services Ltd. Peterson, N.M. Northwest Territories. Dept. of Renewable Resources [Sponsor].
[S.l.] : Salix Enterprises Ltd. Ecological Services Ltd., 1985.
120 p. : figures, tables ; 28 cm.
Appendices.
References.
OORD, NWYRR, NWYGI

This report examines the meaning of "protected areas" of different types in a wide variety of regional, national and international jurisdictions and analyses the values proposed for protection in specified "protected area" proposals within the Northwest Territories. It contains an inventory of all established and many proposed "protected areas" in the NWT. Its intent is as a background document for those parties interested in the implementation of a conservation strategy for the NWT. (Au)

U.S. coastal zone planning and management activities in the Alaskan Beaufort: implications for the Government of the Northwest Territories / M.W. Coastal Futures Inc. Northwest Territories. Dept. of Renewable Resources [Sponsor].
Ottawa : M.W. Coastal Futures Inc., 1986.
70 leaves : figures, tables ; 28 cm.
Appendices.
References.
OORD, NWYRR, NYWGI

The objective of this study is to examine and evaluate US planning and management thrusts in the Alaskan Beaufort and to identify common issues related to development that might affect GNWT interests. The study begins with a review of material relating to the physical characteristics of the region as well as a discussion of what is taking place in the Beaufort coastal zone region from an economic development and administrative perspective. Issues of concern to the GNWT are identified, and a description made of possible development scenarios. Administrative resource management questions relating to the issues are identified, and recommendations are made for action by the GNWT. (Au)

Identification of impact indicators for renewable resource harvesting / Fee-Yee Consulting Ltd. DeLancey, D. P.J. Usher Consulting Services. Usher, P. Northwest Territories. Dept. of Renewable Resources [Sponsor].
[S.l.] : Fee-Yee Consulting Ltd., P.J. Usher Consulting Services, 1986.
49 p. : 28 cm.
Appendices.
References.
OORD, NWYRR, NWYGI

This report reviews and evaluates the impact hypotheses generated by Mackenzie Environmental Monitoring Program workshops to ensure, to the extent possible, that they are accurate and thorough. It also proposes working definitions for such terms as "harvest", "indicator", "harvester" and "effort", and proposes an initial set of indicators which can be used to assess and monitor impacts of development on renewable resource harvesting. (NOGAP)

DETERRENT STUDIES FOR HYDROCARBON DEVELOPMENT IMPACT AREA (H.13)

Bear deterrent study (twelve gauge ferret shell tests) Cape Churchill, Manitoba 1984 / Northwest Territories. Dept. of Renewable Resources. Derocher, A.E. Miller, J.S.
Yellowknife, N.W.T. : The Department, 1986.
ix, 39 p. : figures, tables ; 28 cm.
(File report no. 54)
Appendices.
References.
OORD, NWYRR, NWYGI

Polar bear (Ursus maritimus) deterrent tests using 12 gauge ferret shells (plastic slugs) were completed at Cape Churchill, Manitoba between 19 October - 4 November 1984. A total of 119 tests were peformed (77 experimental and 42 control). No significant differences were found in the time spent in entry or exit between experimental and control bears in the three outer zones. Bears were hit an average of 2.14 times per experimental animal per trial, while control animals were not hit. Experimental bears returned to the bait site approximately 17 hours after being hit with a 12 gauge ferret shell, while control animals returned significantly later at about 43 hours. At least 87.5% of the marked animals returned to the bait site at least once; some bears returned a minimum of seven times. The deterrent shells were fairly uniform in performance with less than 4% noticeably aberrant. Plastic slugs were fired at an average distance of 24 m from the bears. Researchers had an overall accuracy of 89%. Strong winds affected the accuracy of the ferret shells. (Au)

Infra-red detection and acoustic deterrent study Cape Churchill, Manitoba, 1984 / Compuheat Services Canada Inc. Northwest Territories. Dept of Renewable Resources [Sponsor].
Calgary, Alta. : Compuheat Services Canada, 1986.
ix, 49 p. : figures, tables ; 28 cm.
(File report no. 55)
Appendices.
References.
OORD, NWYRR, NWYGI

A two-part study was carried out. ... Part one...tested the feasibility of using an infra-red system to detect (and also census) polar bears (Ursus maritimus) under natural arctic winter conditions, and to assess this system's usefulness as an early warning device. Part two consisted of a preliminary investigation into the feasibility of using an acoustic system...to observe the effects of acoustic stimulation on bear behaviour and to determine any possible optimal frequencies for deterring these animals in their natural habitat. Results of part one indicate that the infra-red wavelength band of 8-14 microns is practical for use in detecting polar bears in their natural habitat, despite adverse weather conditions. ... Results of part two showed that most bears were sensitive to the 0.1 - 9.0 kHz range of frequencies and were most effectively deterred at frequencies of 1.0 - 4.0 kHz. ... Because of the small sample size and the limited testing period, further investigation is recommended to obtain conclusive results. A list of possible influencing factors is offered for consideration for further testing. (Au)

Safety in grizzly and black bear country / Bromley, M.A. Northwest Territories. Renewable Resources. [Sponsor].
[S.l.] : Northwest Territories. Dept. of Culture and Communications, 1986.
24 p. : ill., photos ; 22 cm.
ISBN 0-7708-7151-8.
OORD, NWYRR, NWYGI

This booklet was written for the layman. It includes information on the nature of black and grizzly bears, how to avoid problems when travelling in black and grizzly bear country and what to do if a black or grizzly bear is encountered. Detection and deterrent systems that may be useful to the traveller or worker are discussed. (Au)

Safety in polar bear country / Bromley, M.A. Northwest Territories. Renewable Resources [Sponsor].
[S.l.] : Northwest Territories. Dept. of Culture and Communications, 1986.
24 p. : ill., photos ; 22 cm.
ISBN 0-7708-750-X.
OORD, NWYRR, NWYGI

This booklet was written for the layman. It includes information on the nature of polar bears, how to avoid problems when travelling or working in polar bear country and what to do if a polar bear is encountered. Detection and deterrent systems that are currently available are discussed. (Au)

Human/raptor interaction: management techniques in resource development scenarios / Scott, B.W.A. Northwest Territories. Dept. of Renewable Resources [Sponsor].
Yellowknife, N.W.T. : Dept. of Renewable Resources, 1985.
vii, 83 p. : tables; 28 cm.
(Manuscript report)
References.
OORD, NWYRR, NWYGI

The increased use of land resources in the last two decades, largely prompted by accelerated exploration and development of non-renewable resources, has brought significant pressures to bear on raptors. A survey of literature was undertaken to determine the possibility of developing defensible, biologically based limitations under which resource development might optimally proceed. The extent of the literature is such that spatial, temporal and procedural guidelines may be developed on a site/project-specific basis. No universal or omnibus restrictions are proposed, other than basic minimums, which may be incorporated into the NWT Wildlife Service legislation/ regulatory base. Such minimums are to be augmented by local conditions. Suggestions are given for education programs, increase in the legitimacy of the NWT legal base for habitat and raptor management, and concerns for future study. (Au)

RENEWABLE RESOURCES BASELINE INFORMATION FOR WILDLIFE POPULATIONS AFFECTED BY HYDROCARBON DEVELOPMENT (H.16)

Abundance and distribution of muskoxen and caribou on Banks Island, July 1985 / Northwest Territories. Dept. of Renewable Resources.
McLean, B. Jingfors, K. Case, R.
Yellowknife, N.W.T. : The Department, 1986.
ix, 45 p. : figures, tables ; 28 cm.
(File report no. 64)
Appendices.
References.
OORD, NWYRR, NWYGI

A stratified strip transect survey of Banks Island, NWT was flown between 6 and 14 July 1985. The survey documented distribution and abundance of muskoxen (Ovibos moschatus) and Peary caribou (Rangifer tarandus pearyi). The total number of non-calf muskoxen observed on-transect was 5867 and the resulting estimate was 25,700 + 2050 (SE) muskoxen. Densities ranged from .21 muskoxen/km^2 on south-central Banks Island to 1.52 muskoxen/km^2 in the Thomsen River area. ... The proportion of calves to total classified was 15.3% (137/898). (Au)

ENVIRONMENTAL PROTECTION AND MONITORING OF HYDROCARBON DEVELOPMENT AREAS (H.17)

Spill containment and cleanup course manual/ Stanley Associates Engineering Ltd., 1985. Northwest Territories. Dept. of Renewable Resources [Sponsor].
Edmonton, Alta. : Stanley Associates Engineering Ltd., 1985.
1 v. (various pagings) : figures, tables ; 28 cm.
Appendices.
OORD, NWYRR, NWYGI

This manual provides the background needed to respond to hydrocarbon and chemical spills that occur in the Northwest Territories. It presents information on the characteristics, properties and hazards of spilled materials, provides suggested response, cleanup and site restoration actions, and discusses potential health and environmental effects. It also contains several case histories of actual spill response actions carried out for spills in the NWT. The information presented has been especially tailored to recognize the unique conditions that exist within the NWT. (L. James)

Department of Social Services

SOCIAL IMPACT BASELINE DATA STUDY (H.3)

Community development manual / Stanley Associates Ltd. G.A. Bruce Holdings Ltd. Northwest Territories. Dept. of Social Services. [Sponsor].
Yellowknife, N.W.T. : The Department, 1986.
vi, 38 p. : figures ; 28 cm.
Appendices.
OORD, NWYGI, NWYOS

This manual is to be used as one of many tools by community councils, community development workers and social workers when practicing community development and delivery workshops. It is divided into four sections: 1) community development; 2) organizational maze, which describes formal groups that may exist within a community and identifies organizations outside the community at the regional, territorial and national level that can influence community issues; 3) root cause, and 4) community development models and methods, which describes constructive citizen participation focussing on the three major players--industry, government and communities--in the development of oil and gas resources. Examples of community development provided are specific to the Beaufort area. (NOGAP)

The effects of rotational wage employment on workers and their families in the Beaufort Sea - Mackenzie Delta area: an annotated bibliography, indicators, employment data and recommendations for further research / Northwest Territories. Dept. of Social Services. NOGAP Research Team.
Yellowknife, N.W.T. : The Department, 1986.
66 p. : tables ; 28 cm.
Appendices.
CORD, NWYGI

In the past fifteen years, a significant number of native people in Canada's Arctic have been involved in wage employment in the oil and gas and mining industries as rotational (community) employees. This report contains an annotated bibliography of relevant literature, indicators for impact assessment and recommendations for further research, which is intended to enable the Government of the Northwest Territories to assess the effects of rotation on families and workers in the Beaufort area and devise solutions to identified problems. (NOGAP)